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Subject: Home Science **Code No. : 12**

UNIT-I : FOOD SCIENCE AND FOOD SERVICE MANAGEMENT

1. Food science and nutrition.
2. Properties of food – physical and chemical properties
3. Quality evaluation of foods- objectives and subjective.
4. Effects of cooking and processing techniques on nutritional components and other physical parameters, food preservation and application.
5. Food pigments and additives.
6. Food standards, microbiological safety of food, HACCP, food packaging.
7. Perspectives of food service-menu planning, food cost analysis.
8. New product development - nano technology
9. Food service management of institutional level-hospital, educational institutions, social and special institutions
10. Research methods-fundamental issues, concept, need relevance, scope and ethics in research

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UNIT-II : NUTRITION AND DIETETICS

1. Food groups – balanced diet, food pyramid, macro and micro nutrition.
2. Nutrients-role of nutrients in the body, nutrient deficiencies and requirements for Indians.
3. Public health nutrition
4. Nutrition through life span-physiological changes, growth and development from conception to adolescence, nutritional needs and dietary guidelines for adequate nutrition through life cycle, nutrition concerns.
5. Community nutrition, sports nutrition, nutrition in emergencies and disasters.

6. Nutritional assessment-methods and techniques.
7. Nutritional intervention-national nutrition policies and programmes, food and nutrition security.
8. Clinical and therapeutic nutrition.
9. Diet counseling and management.
10. Research methods- research designs, principles and purpose of research

Unit-III : TEXTILES

1. Textile terminologies- fibre, yarn, weave, fabric etc., classification of fibers, yarns and weaves, Identification of fibres and weaves.
2. Manufacturing process of major natural and manmade fibres, properties and their end uses.
3. Different methods of fabric construction-woven, knitted and non woven fabrics, their properties and end uses.
4. Textiles finishes-classification, processing and purposes of finishes.
5. Dyeing and printing-classification, method of block printing, tie and dye, batik, roller printing, screen printing, discharge, heat transfer printing and digitized printing.
6. Traditional textiles of India-embroidered textiles, printed textiles, woven textiles, dyed textiles of various regions in India. Identification on the basis of fibre content, technique, motif, colour and designed.
7. Textile Testing and quality control-need of testing, sampling method, techniques of testing fibres, yarn, fabrics and garments. Testing of colour-fastness, shrinkage, pilling and GSM of fabrics.
8. Textile and environment-banned dyes, eco-friendly textiles, contamination and effluent treatment, Eco-label and eco marks.
9. Recent developments in textiles and apparels- nano textiles, technical textiles, occupational clothing, zero waste designing, up cycling and recycling.
10. Research methods-types of research, descriptive, survey, historical, qualitative, quantitative, analytical and action research

UNIT-IV : APPAREL DESIGNING

1. Body measurements-procedure, need, figure types and anthropometry.
2. Equipments and tools used for manufacturing garments-advancements and attachments used for sewing machine. Types of machines used and their parts.

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3. Elements and principles of design and its application to apparel. Illustrations and parts of garments.
4. Fashion-Terminologies, fashion cycle, fashion theories, fashion adoption, fashion forecasting and factors affecting fashion.
5. Pattern making-drafting, draping and flat pattern making techniques, pattern alteration and dart manipulation techniques.
6. Apparel manufacturing-terminology used, seams, techniques and machines used, process of fabric to apparel manufacture.
7. Apparel Quality testing-Quality standards and specification, Quality parameters and defects of fabrics and garments.
8. Care and maintenance of clothing-principles of washing, laundry agents, storage techniques case labels and symbols.
9. Selection of clothing for different age groups. Selection of fabrics for different and uses.
10. Research methods-hypothesis testing, types and scope

UNIT-V : RESOURCE MANAGEMENT AND CONSUMER ISSUES

1. Management-concept, approaches, management of time, energy, money, space, motivating factors, motivation theories, decision making.
2. Functions of management-planning, supervision, controlling, organizing, evaluation, family life cycle-stages, availability and use of resources.
3. Resources-classification, characteristics, factors affecting use, resource conservation, time management, work simplification techniques, classes of change, fatigue and its management.
4. Management of natural resources-land, forest, water, air, water harvesting, municipal solid waste management, concept of sustainable development, SDGs.
5. Money management-family income, types, supplementation, budgeting, household accounts, family savings and investment, tax implications.
6. Human resource management- functions, need, human resource development-challenges, functions, manpower planning, training need assessment, training methodologies, training evaluation.
7. Consumer-definition, role, rights and responsibilities, consumer behavior, consumer problems, education and empowerment.
8. Consumer protection- consumer organization, cooperatives, alternative redressal, standardization, standard marks, quality control, buying aids, consumer legislation.
9. Entrepreneurship-concept, process, barriers, entrepreneurial motivation, challenges, enterprise setting, project planning and appraisal, enterprise management.
10. Research methods-sampling techniques, types of sampling, sampling procedures, probability and non probability sampling

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UNIT-VI : HOUSING AND INTERIOR DESIGN

1. Design fundamentals – elements of art, principles of design, principles of composition.
2. Colour - dimensions of colour, psychological effects of colour, colour schemes, factors affecting use of colour.
3. Space planning and design-housing need and important, principles of planning spaces, types of house plans, economy in construction, planning for different income groups.
4. Building regulations-norms and standards, zoning, housing for special groups and areas, housing finance.
5. Housing and environment- building materials- impact on environment, green rating systems, energy efficiency in buildings, energy auditing, indices of indoor comfort.
6. Energy as a resource- conventional and non- conventional sources, renewable /non-renewable energy, energy management, national efforts on energy conservation.
7. Product design - design thinking process, diffusion and innovation, design communication, ergonomic considerations.
8. Ergonomics - significance, scope, anthropometry, man, machine, environment relationship, factors affecting physiological cost of work, body mechanics, functional design of work place, time and motion study, energy studies.
9. Furniture and furnishing - historical perspectives, architectural styles, contemporary tends, wall finishes, window and window treatments.
10. Research methods-selection and preparation of tools for data collection-questionnaire, interview, observation, measuring scales, ranking and measurement, reliability and validity of tools

UNIT-VII : CHILD/HUMAN DEVELOPMENT

1. Principles of growth and development, care during pregnancy and pre-natal and neonatal development.
2. Theories of human development and behavior.
3. Early childhood care and education – activities to promote holistic development.
4. Influence of family, peers, school, community and culture on personality development.
5. Children and persons with special needs, care and support, special education, prevention of disabilities, rehabilitation.
6. Children at risk-child labour, street children, children of destitute, orphans, child abuse and trafficking.
7. Adolescence and youth: changes, challenges and programs to promote optimal development.
8. Adulthood, characteristics, changing roles and responsibilities in early and middle adulthood.
9. Aging-physical and psychological changes and care needs.
10. Research methods-types of variables and their selection.

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UNIT-VIII : FAMILY STUDIES

1. Dynamics of marriage and family relationships.
2. Family welfare-approaches, programmes and challenges, role in national development.
3. Domestic violence, marital disharmony, conflict, resolution of conflict.
4. Parent education, positive parenting, community education.
5. Family disorganization, single parent families.
6. Family studies-family in crisis, family therapy, initiatives for child development.
7. Human rights, rights of children, rights of women, status of women, gender roles.
8. Guidance and counseling- across life span and for care givers.
9. Health and well being across life span development.
10. Research methods- data collection and classification, coding, tabulation, inferential and descriptive statistics.

UNIT-IX : COMMUNICATION FOR DEVELOPMENT

1. Basics of communication- nature, characteristics, functions, process, models, elements, principles, barriers, perception, persuasion and empathy, types of communication, levels (settings) of communication transactions, process of listening.
2. Communication systems and communication theories- human interaction theories, mass communication theories, message design theories, communication systems, culture and communication.
3. Concept of development- theories, models, measurement and indicators of development.
4. Concept of development- communication models and approaches, diffusion and innovation, mass media, social marketing.
5. Role of communication in development- need and importance, development journalism, writing for development-print, radio, television and internet.
6. Concerns of development communication- gender, health, environment, sustainability, human rights, population, literacy, rural and tribal development.
7. Advocacy and behavior change communication- concept, theories, models, approaches, application and challenges.
8. Traditional, modern and new media for development - folk forms of songs, art, dance, theatre, puppetry, advertisement, cinema, ICTs for development-community radio, participatory video, social media and mobile phones.
9. Organisation/agencies/institutes working for development communication-international/national/state and local.
10. Research methods-analysis of data through parametric and non parametric tests.

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UNIT-X : EXTENSION MANAGEMENT AND COMMUNITY DEVELOPMENT

1. Historical perspectives of extension–genesis of extension education and extension systems in India and other countries, objectives of extension education and extension service, philosophy and principles of extension programme development.
2. Programme management- need assessment, situation analysis, planning, organization, implementation, monitoring and evaluation.
3. Extension methods and materials- interpersonal, small and large group methods, audiovisual aids-need, importance, planning, classification, preparation and field testing, use and evaluation of audio-visual materials.
4. Curriculum development and planning for extension education and development activities, Bloom's taxonomy of educational objectives and learning.
5. Non-Formal, adult and lifelong education-historical perspectives, concept, theories, approaches, scope, methods and materials used, challenges of implementation and evaluation, issues to be addressed.
6. Training, skill development and capacity building for human resource development-methods of training, entrepreneurship development.
7. Community development- perspectives, approaches, community organization, leadership, support structures for community development, Panchyati raj institutions, NGOs and community based organisations.
8. People's participation and stakeholders' perspectives, Participatory Learning and Action-methods and techniques.
9. Development programmes in India for urban, rural and tribal population groups-programmes for nutrition, health, education, wage and self employment, women's development, skill development, sanitation and infrastructure.
10. Research methods-scientific report writing, presentation of data, interpretation and discussion.

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CHAPTER 01

Food Science and Food Service Management

1. Which of the following best defines "Food Science"?
(A) The study of nutrients in food and their relation to health.
(B) Science and engineering applied to food nature and processing.
(C) The practice of menu planning and food service management.
(D) The analysis of food costs and product development cycles.

2. Read the following statements about the relationship between food science and nutrition.
Statement I : Food science focuses on the nature of foods and the changes they undergo during processing and storage.
Statement II : Nutrition focuses on how the body utilizes the food consumed to support health and wellness.
Which of the statements is/are correct?
(A) Only Statement I is correct.
(B) Only Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

3. Which of the following is considered a physical property of food?
(A) pH value
(B) Water activity
(C) Viscosity
(D) Carbohydrate content

4. A food scientist is measuring the resistance of a gel to flow. Which physical property is being evaluated?
(A) Texture
(B) Color
(C) Specific gravity
(D) Rheology

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5. Consider the following physical properties of food:
1. Texture
2. Flavor
3. Acidity
4. Color

Which of the above are considered key physical properties evaluated in food science?
(A) 1 and 3 only
(B) 2 and 4 only
(C) 1, 2, and 4 only
(D) 1, 2, 3, and 4

6. Which of the following is a primary chemical property influencing food stability and microbial growth?
(A) Density
(B) Water activity (aw)
(C) Porosity
(D) Refractive index

7. Which statement incorrectly describes a property of food?
(A) Texture refers to the sensory manifestation of the structure of the food.
(B) Physical properties are those that can be measured without changing the chemical composition of the food.
(C) Chemical properties describe the potential for the food to undergo chemical change.
(D) Color is a chemical property determined solely by the pH of the food.

8. The primary difference between subjective and objective quality evaluation of food is that:
(A) Subjective uses sensory panels; objective uses instruments.
(B) Subjective uses instruments; objective uses human senses.
(C) Objective evaluation processes are usually less reliable.

(D) Objective measures flavor; subjective measures texture.

9. In the context of food quality, what is the main purpose of a sensory evaluation panel?
(A) To determine the microbiological safety of a food product.
(B) To measure the precise nutritional content of a food item.
(C) To assess food characteristics as perceived by human senses.
(D) To calculate the food cost and market price of a product.

10. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : The chemical properties of a food, such as pH and water activity, are critical determinants of its shelf life.
Reason (R) : Most spoilage microorganisms have specific optimal ranges of pH and water activity for growth.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

11. The use of a colorimeter to measure the L*, a*, and b* values of a tomato sauce is an example of which type of food quality evaluation?
(A) Subjective evaluation
(B) Microbial evaluation
(C) Rheological evaluation
(D) Objective evaluation

12. Which of the following is NOT a method of subjective quality evaluation of food?
(A) Triangle test
(B) Gas chromatography
(C) Paired comparison test
(D) Hedonic rating scale

13. A food processing company wants to know if consumers can detect a difference between their original formulation and a new low-sugar version of a beverage. Which would be the most appropriate sensory test to use?
(A) Hedonic scale test
(B) Shear press measurement
(C) Duo-trio test
(D) Profiling test

14. Blanching vegetables before freezing primarily serves to:
(A) Cook the vegetables fully to make them ready-to-eat.
(B) Reduce the water content significantly for preservation.
(C) Add preservatives and additives to the vegetables.
(D) Inactivate enzymes causing off-flavors and changes.

15. Match the processing techniques in List I with their primary effects on food in List II.
List I: (Processing Technique)
P. Pasteurization
Q. Sterilization
R. Dehydration
S. Freezing
List II: (Primary Effect)
1. Significant reduction in water activity
2. Inactivation of vegetative pathogens and spoilage enzymes
3. Destruction of all microorganisms, including spores
4. Slowing down of microbial and enzymatic activity by lowering temperature
Choose the correct option:
(A) P-2, Q-3, R-1, S-4
(B) P-3, Q-2, R-4, S-1
(C) P-1, Q-4, R-2, S-3
(D) P-4, Q-1, R-3, S-2

16. Which of the following is a correct statement regarding the effect of cooking on nutrients?
(A) Water-soluble vitamins like Vitamin C are highly stable during boiling.
(B) The bioavailability of certain nutrients, like lycopene in tomatoes, can be increased by cooking.
(C) Dry-heat cooking methods like baking cause less nutrient loss than moist-heat methods.
(D) Proteins are completely unaffected by heat during cooking processes.

17. The browning of a cut apple exposed to air is an example of:
(A) Maillard reaction

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(B) Enzymatic browning
(C) Caramelization
(D) Protein denaturation

18. What is the fundamental principle of food preservation by drying?
(A) Lowering the water activity (aw) to prevent microbial proliferation.
(B) Increasing the pH of the food to inhibit microbial growth.
(C) Using high temperatures to destroy all microorganisms and their spores.
(D) Encasing the food in a layer of fat to prevent oxygen contact.

19. A chef is searing a steak on a hot pan, creating a brown crust and a complex, savory flavor. This process is primarily an example of which chemical reaction?
(A) Caramelization of sugars alone
(B) Denaturation of muscle proteins
(C) Maillard reaction between amino acids and reducing sugars
(D) Oxidation of fatty acids

20. Consider the following applications of food preservation techniques:
1. To increase the shelf-life of food products.
2. To maintain the nutritional quality of food over time.
3. To ensure food availability during off-seasons.
4. To enhance the organoleptic properties of certain foods.
5. To reduce post-harvest losses.

Which of the above are recognized applications of food preservation?
(A) 1 and 3 only
(B) 1, 2 and 5 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, 4, and 5

21. The green pigment found in leafy vegetables, which is sensitive to heat and acid, is known as:
(A) Carotenoid
(B) Anthocyanin
(C) Chlorophyll
(D) Betalain

22. Read the following statements regarding food pigments.

Statement I : Anthocyanins are responsible for the red, purple, and blue colors in many fruits and vegetables and are sensitive to pH changes.
Statement II : Carotenoids, responsible for yellow, orange, and red colors, are fat-soluble and generally stable to heat.
Which of the statements is/are correct?
(A) Only Statement I is correct.
(B) Only Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

23. Which food additive is used to prevent oxidation and rancidity in fats and oils?
(A) Emulsifier
(B) Humectant
(C) Sequestrant
(D) Antioxidant

24. The function of an emulsifier, such as lecithin, in food processing is to:
(A) Help mix and stabilize two immiscible liquids, like oil and water.
(B) Thicken the product and form a gel.
(C) Prevent the growth of molds and yeasts.
(D) Enhance the existing flavor of the food product.

25. The red color of beets is attributed to which group of pigments?
(A) Chlorophylls
(B) Carotenoids
(C) Betalains
(D) Anthocyanins

26. Which of the following is an example of a food additive used as a preservative?
(A) Sodium Benzoate
(B) Monosodium Glutamate (MSG)
(C) Tartrazine
(D) Xanthan gum

27. The quality certification mark used for agricultural products in India is:
(A) ISI Mark
(B) FPO Mark
(C) BIS Hallmark
(D) AGMARK

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28. What does the acronym HACCP stand for in the context of food safety?
(A) Healthy and Clean Consumption Practices
(B) Hazard Analysis and Critical Control Points
(C) Hazardous Article Control and Command Post
(D) Human Analysis of Critical Contamination Points

29. The primary purpose of food packaging is to:
(A) Make the product look visually appealing to increase sales.
(B) Provide a surface for printing nutritional information only.
(C) Protect food from physical, chemical, and microbial contamination.
(D) Increase the weight of the final product for shipping.

30. Consider the following statements about HACCP:
1. It is a reactive system used to identify contaminated food after it has been produced.
2. It involves identifying potential hazards in the food production process.
3. Establishing critical limits is a key principle of HACCP.
4. It focuses on end-product testing rather than process control.

Which of the above statements correctly describe the HACCP system?
(A) 1 and 4 only
(B) 2 and 3 only
(C) 1, 2, and 3 only
(D) 2, 3, and 4 only

31. A food-borne illness caused by a toxin produced by Clostridium botulinum in improperly canned foods is an example of a:
(A) Food intoxication
(B) Food infection
(C) Parasitic infestation
(D) Viral contamination

32. Which of the following is NOT a primary function of food packaging?
(A) Containment
(B) Nutrient enhancement
(C) Protection
(D) Communication

33. Which is the most appropriate first step in menu planning for a food service operation?
(A) Calculating the food cost for each item.
(B) Understanding target customer needs and preferences.
(C) Sourcing ingredients from various suppliers.
(D) Designing the layout of the menu card.

34. The "Food Cost Percentage" in a food service operation is calculated as:
(A) (Cost of Food Sold / Total Food Revenue) x 100
(B) (Total Food Revenue / Cost of Food Sold) x 100
(C) (Labor Cost / Total Food Revenue) x 100
(D) (Total Expenses / Total Food Revenue) x 100

35. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Menu planning is a central control tool in food service management.
Reason (R) : The menu dictates purchasing, production, staffing requirements, and equipment needs, thereby influencing overall costs and operational efficiency.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

36. A menu that offers the same dishes every single day is known as a:
(A) Cyclic menu
(B) A la carte menu
(C) Table d'hôte menu
(D) Static menu

37. A school cafeteria serves a different set of meals on a 4-week rotation. This is an example of which type of menu?
(A) Static menu
(B) A la carte menu
(C) Cyclic menu
(D) Du jour menu

38. The process of analyzing a menu's items based on their popularity (menu mix) and profitability (contribution margin) is known as:

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(A) Food cost analysis
(B) Menu engineering
(C) New product development
(D) HACCP analysis

39. The initial stage of the new product development process typically involves:
(A) Test marketing
(B) Commercialization
(C) Product formulation
(D) Idea generation and screening

40. Match the food service terms in List I with their descriptions in List II.
List I: (Term)
P. A la carte
Q. Table d'hôte
R. Portion control
S. Food cost analysis
List II: (Description)
1. A multi-course meal at a fixed price
2. Ensuring a standard size for each serving to maintain cost and consistency
3. Menu where items are priced individually
4. The process of determining the expense of preparing a menu item
Choose the correct option:
(A) P-1, Q-3, R-4, S-2
(B) P-3, Q-1, R-2, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-4, Q-2, R-3, S-1

41. In the context of food technology, what is nanoencapsulation used for?
(A) To increase the size of food particles for better texture.
(B) To measure the microbiological load of a food product.
(C) To protect sensitive ingredients and control their release.
(D) To create packaging material that is completely impermeable.

42. The application of nanotechnology in food packaging might involve:
(A) Incorporating silver nanoparticles for their antimicrobial properties.
(B) Using larger polymers to increase package thickness.
(C) Making the packaging material heavier to prevent damage.
(D) Using traditional materials like glass and metal exclusively.

43. Which statement about New Product Development (NPD) in the food industry is incorrect?
(A) Consumer research is crucial for successful NPD.
(B) The process includes stages like idea generation, prototype development, and test marketing.
(C) Cost analysis and production feasibility are important considerations in NPD.
(D) NPD is a linear process that always follows a fixed sequence of steps without deviation.

44. Which of the following is a primary challenge in food service management for a hospital?
(A) Providing a wide variety of exotic and gourmet food choices.
(B) Accommodating diverse therapeutic diets and ensuring safety.
(C) Maximizing profit from every meal served to the public.
(D) Creating a menu that changes daily with no repetition.

45. Consider the following characteristics of food service management:
1. High emphasis on speed of service during peak hours.
2. Need to appeal to a young and diverse customer base.
3. Often operates on a cyclic menu basis.
4. Requirement to meet specific nutritional guidelines (e.g., for mid-day meals).
5. Primary focus on five-star gourmet cuisine.
Which of the above are key characteristics of food service in educational institutions?
(A) 1 and 5 only
(B) 2, 3, and 5 only
(C) 1, 2, 3, and 4 only
(D) 1, 2, 3, 4, and 5

46. What type of diet would be most commonly planned in a hospital food service for a patient with kidney disease?
(A) High protein, high sodium diet
(B) Low protein, controlled sodium and potassium diet
(C) Unrestricted, regular diet

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(D) High fat, high carbohydrate diet

47. In the context of "special institutions" for food service, a menu for a daycare center for preschool children should prioritize:
(A) Nutrient density, appropriate portion sizes, and food safety.
(B) Spicy and complex flavors to develop their palate.
(C) Low-cost ingredients to maximize profitability.
(D) A static menu to reduce operational complexity.

48. The term 'scope of research' refers to:
(A) The specific ethical guidelines that must be followed.
(B) The boundaries and parameters of the study being conducted.
(C) The financial budget allocated for the research project.
(D) The list of publications the researcher aims to achieve.

49. Which of the following is a fundamental ethical principle in research involving human subjects?
(A) Deceiving participants to get unbiased results.
(B) Publishing data without participants' permission.
(C) Ensuring participants provide informed consent.
(D) Avoiding the use of control groups.

50. Arrange the following general steps of the research process in the correct chronological order:
1. Data collection
2. Formulation of research problem
3. Data analysis and interpretation
4. Review of literature
5. Report writing

Choose the correct sequence:
(A) 2, 4, 1, 3, 5
(B) 4, 2, 1, 5, 3
(C) 2, 1, 4, 3, 5
(D) 1, 2, 4, 3, 5

51. The "relevance" of a research study primarily addresses:
(A) How well the study is designed and executed.
(B) The number of participants involved in the study.
(C) The statistical tools used for data analysis.
(D) The contribution the study makes to existing knowledge.

52. Plagiarism in research is defined as:
(A) Fabricating data to support a hypothesis.
(B) Using another's work without giving appropriate credit.
(C) Failing to obtain ethical clearance for a study.
(D) Selecting a sample that is not representative.

53. Read the following statements regarding types of research.
Statement I : Fundamental research aims to solve immediate practical problems.
Statement II : Applied research aims to expand the existing base of scientific knowledge.
Which of the statements is/are correct?
(A) Only Statement I is correct.
(B) Only Statement II is correct.
(C) Both I and II are correct.
(D) Neither I nor II is correct.

54. The concept of "research ethics" primarily deals with:
(A) The methods of data collection.
(B) The statistical validity of the results.
(C) The speed and efficiency of completing a research project.
(D) The moral principles and standards that guide research activities.

55. Consider the following issues related to research:
1. Informed consent
2. Confidentiality of participant data
3. Plagiarism
4. Falsification of data

Which of the above are considered major ethical concerns in conducting and reporting research?
(A) 1 and 2 only
(B) 3 and 4 only
(C) 1, 2, and 3 only
(D) 1, 2, 3, and 4

56. The Maillard reaction, a key chemical change in food, occurs between:
(A) Two sugar molecules
(B) Amino acids and reducing sugars

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(C) Fats and oxygen
(D) Starch and water

57. A food's resistance to flow is a physical property known as viscosity. Which of the following foods would be expected to have the highest viscosity?
(A) Honey
(B) Water
(C) Milk
(D) Apple juice

58. Which of the following is an example of an objective method for evaluating the texture of a cracker?
(A) A taste panel rating its crispiness on a 9-point scale.
(B) A consumer preference test.
(C) Using a texture analyzer to measure fracturing force.
(D) Describing its mouthfeel using sensory-specific terms.

59. The process of heating milk to 138°C for 2-4 seconds to make it commercially sterile is known as:
(A) Ultra-High Temperature (UHT) processing
(B) Pasteurization
(C) Blanching
(D) Canning

60. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Blanching vegetables in hot water or steam before freezing helps retain their quality during storage.
Reason (R) : Blanching destroys oxidative enzymes like lipoxygenase and peroxidase, which can cause deterioration in color, flavor, and nutrients.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

61. Which food additive functions as a stabilizer or thickener, often used in sauces and dressings?
(A) BHT (Butylated hydroxytoluene)
(B) Aspartame
(C) Sodium erythorbate
(D) Xanthan gum

62. In a HACCP plan, a "Critical Control Point" (CCP) is best described as:
(A) The final point of packaging.
(B) A step essential to eliminate a food safety hazard.
(C) Any point in the process where raw materials are received.
(D) The location where employee hygiene is monitored.

63. The use of modified atmosphere packaging (MAP) for fresh salads primarily aims to:
(A) Increase the temperature of the product.
(B) Add nutrients to the salad leaves through the packaging.
(C) Reduce respiration and growth by altering gas composition.
(D) Cook the product inside the package.

64. Which statement most accurately describes the role of menu planning in food service cost control?
(A) Menu planning only affects the aesthetic presentation of food.
(B) Menu planning is solely concerned with the nutritional content.
(C) An effective menu has no impact on food inventory needs.
(D) The menu is the primary determinant of all operational costs.

65. Match the food pigments in List I with their typical sources and colors in List II.
List I: (Food Pigment)
P. Anthocyanin
Q. Chlorophyll
R. Carotenoid
S. Myoglobin
List II: (Typical Food Source and Color)
1. Carrot (Orange)
2. Red Meat (Red)
3. Red Cabbage (Red/Purple)
4. Spinach (Green)
Choose the correct option:
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-1, S-2
(C) P-2, Q-3, R-4, S-1
(D) P-4, Q-1, R-2, S-3

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66. A research design that involves collecting data at a single point in time from a sample to create an overall picture of the population is known as:
(A) A longitudinal study
(B) A cross-sectional study
(C) An experimental study
(D) A case study

67. Which of the following is NOT a principle of HACCP?
(A) Conduct a hazard analysis.
(B) Determine critical control points.
(C) Establish corrective actions.
(D) Establish maximum profitability targets.

68. The primary goal of managing food service in a social institution, such as an orphanage or an old age home, is:
(A) To provide balanced and safe meals within a strict budget.
(B) To generate maximum revenue.
(C) To offer a wide range of international cuisine.
(D) To implement a fully automated cooking and service system.

69. In food product development, what does the term 'prototype' refer to?
(A) The final commercialized product sold in stores.
(B) The marketing plan for the new product.
(C) An early sample or model of the product built to test a concept or process.
(D) The financial analysis of the product's profitability.

70. A hospital dietitian is planning a menu for a patient with celiac disease. Consider the following:
1. The menu must be completely free of wheat, barley, and rye.
2. Cross-contamination with gluten-containing foods must be strictly avoided.
3. The patient should be given a high-fiber diet using whole wheat bread.
4. The diet should be low in all carbohydrates.
5. Verification of ingredient labels for hidden sources of gluten is necessary.

Which of the above considerations are essential?
(A) 1, 2, and 5 only
(B) 1, 3, and 4 only
(C) 2, 3, and 5 only
(D) 1, 2, 3, 4, and 5

71. When evaluating the quality of milk, a sour taste is indicative of which type of spoilage?
(A) Proteolytic
(B) Lipolytic
(C) Physical
(D) Saccharolytic (fermentative)

72. What happens to chlorophyll pigment when vegetables are cooked in an acidic medium (e.g., with vinegar)?
(A) It turns bright green (chlorophyllin).
(B) It turns olive-drab brown (pheophytin).
(C) It becomes colorless.
(D) It turns a reddish-purple color.

73. All of the following are examples of food preservation by fermentation EXCEPT:
(A) Yogurt
(B) Sauerkraut
(C) Canned peas
(D) Kimchi

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74. A key difference between food standards and food grades is that:
(A) Standards are voluntary, while grades are mandatory.
(B) Standards are set by industry, while grades are set by the government.
(C) Standards apply only to raw agricultural produce, while grades apply to processed foods.
(D) Standards relate to safety; grades classify quality levels.

75. In menu cost analysis, a "standardized recipe" is crucial because it ensures:
(A) Consistency in quality, portion size, and cost per serving.
(B) The dish will be popular with customers.
(C) The dish can be made very quickly.
(D) The dish uses only locally sourced ingredients.

76. The application of nanotechnology to create "nanosensors" in food packaging is primarily for:
(A) Enhancing the flavor of the food.
(B) Detecting spoilage and signaling the food's

condition.
(C) Increasing the caloric content of the food.
(D) Making the package stronger and more rigid.

77. Which of the following represents a key need in food service management at an industrial canteen?
(A) Serving a large number of people quickly with wholesome, affordable meals.
(B) Providing therapeutic diets for individual workers.
(C) Offering an extensive fine-dining menu.
(D) Focusing on presentation over nutritional content.

78. The concept of "research need" is concerned with:
(A) The researcher's personal interest in a topic.
(B) The gap in knowledge or practical problem that the research aims to address.
(C) The availability of funding for the project.
(D) The number of publications expected from the research.

79. Which statement correctly identifies a pair of evaluation methods?
(A) A Texture Profile Analysis (TPA) is a subjective method, while a hedonic scale is an objective method.
(B) Gas chromatography is a subjective method for flavor, while ranking tests are objective.
(C) A penetrometer measures an objective property, while a triangle test is a sensory test.
(D) A line-spread test is a subjective measure of viscosity, while a trained panel is an objective tool.

80. Consider the following statements regarding the effects of cooking:
1. Boiling can lead to the leaching of water-soluble vitamins.
2. Grilling can produce potentially carcinogenic compounds like polycyclic aromatic hydrocarbons (PAHs).
3. Microwaving generally has a shorter cooking time, which can help in better retention of some nutrients.
4. Frying significantly increases the fat content of food.

Which of the above statements are correct?
(A) 1 and 4 only
(B) 2 and 3 only
(C) 1, 2, and 3 only
(D) 1, 2, 3, and 4

81. Which of the following is an incorrect pair of a food additive and its primary function?
(A) Monosodium glutamate - Sweetener
(B) Lecithin - Emulsifier
(C) Sodium nitrite - Color fixative and preservative in cured meats
(D) Pectin - Gelling agent

82. A systematic, science-based approach to preventing food safety problems is known as:
(A) End-product testing
(B) Hazard Analysis and Critical Control Points (HACCP)
(C) Good Manufacturing Practices (GMP)
(D) Quality control inspection

83. What is the main objective of cost analysis in food service?
(A) To set the highest possible prices for menu items.
(B) To focus on reducing the quality of ingredients to save money.
(C) To control expenses to ensure profitability and efficiency.
(D) To eliminate labor costs by automating all kitchen tasks.

84. The first principle of HACCP is to:
(A) Establish critical limits.
(B) Establish monitoring procedures.
(C) Identify Critical Control Points (CCPs).
(D) Conduct a hazard analysis.

85. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : In research, maintaining the confidentiality of participant data is a crucial ethical obligation.
Reason (R) : Protecting participant anonymity helps to prevent potential harm, stigma, or breach of privacy, thereby encouraging honest and open participation.
(A) Both A and R are true and R is the correct explanation of A.

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(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

86. Which property is being measured when a food scientist uses a Kramer Shear Press on a sample of canned peas?
(A) Color
(B) Texture (firmness/tenderness)
(C) Acidity
(D) Viscosity

87. Caramelization is a type of non-enzymatic browning that results from:
(A) The reaction between proteins and sugars.
(B) The oxidation of fats.
(C) The direct heating of sugars.
(D) The activity of the enzyme polyphenol oxidase.

88. Read the following statements regarding food science and nutrition.
Statement I : Food science is an applied science that draws upon chemistry, biology, and engineering.
Statement II : Nutrition is primarily a social science focused on eating habits and cultural practices.
Which of the statements is/are correct?
(A) Only Statement I is correct.
(B) Only Statement II is correct.
(C) Both I and II are correct.
(D) Both I and II are incorrect.

89. A food service manager is trying to decide whether to add a new sandwich to the menu. It is projected to be highly popular but has a low contribution margin. In a menu engineering matrix, this item would be classified as a:
(A) Plowhorse
(B) Star
(C) Puzzle
(D) Dog

90. Match the research terms in List I with their definitions in List II.
List I: (Term)
P. Hypothesis
Q. Sample
R. Variable
S. Ethics
List II: (Definition)
1. A characteristic or attribute that can assume different values
2. A subset of a larger population selected for a study
3. A testable statement about the relationship between two or more variables
4. Moral principles governing the conduct of research
Choose the correct option:
(A) P-3, Q-2, R-1, S-4
(B) P-2, Q-3, R-4, S-1
(C) P-1, Q-4, R-2, S-3
(D) P-4, Q-1, R-3, S-2

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91. The primary cause for the loss of Vitamin C during the cooking of vegetables is its:
(A) Insolubility in fat and stability to heat.
(B) Binding with proteins, making it unavailable.
(C) Conversion into Vitamin D upon exposure to heat.
(D) Solubility in water and sensitivity to heat and oxygen.

92. The FPO (Fruit Products Order) mark in India is a mandatory certification for which category of products?
(A) All dairy products including milk and cheese.
(B) All processed fruit products like juices, jams, and pickles.
(C) Spices and spice blends.
(D) Packaged drinking water.

93. A key feature of food service management for special institutions like armed forces messes is:
(A) A focus on individual therapeutic diets.
(B) Offering a constantly changing a la carte menu.
(C) Providing energy-dense food under challenging conditions.
(D) Prioritizing gourmet presentation over nutritional value and speed.

94. What is the fundamental need for conducting research in food science and nutrition?
(A) To fulfill academic requirements for students.
(B) To create complex and difficult-to-

understand theories.
(C) To prove that existing methods are always the best.
(D) To advance knowledge, quality, and safety innovation.

95. Consider the following fundamental issues in research:
1. Defining a clear research problem.
2. Choosing an appropriate research design.
3. Ensuring the validity and reliability of measurement.
4. Adhering to ethical principles.
5. Securing publication in a high-impact journal as the sole objective.

Which of the above are considered essential in conducting research?
(A) 1 and 2 only
(B) 1, 2, 3, and 4 only
(C) 3, 4, and 5 only
(D) 1, 2, 3, 4, and 5

96. Which food property is a chemical property rather than a physical one?
(A) Texture
(B) Susceptibility to oxidation
(C) Color
(D) Flavor

97. An example of a cause-and-effect relationship in food science is:
(A) Increasing sugar concentration causes an increase in the boiling point of a solution.
(B) The color of a food is related to its price.
(C) The shape of a package determines the food's nutritional value.
(D) A food's brand name influences its pH value.

98. A 'Triangle Test' in sensory evaluation is used to:
(A) Determine which of three samples is preferred.
(B) Determine if a sensory difference exists between two samples.
(C) Rank three samples in order of intensity of an attribute.
(D) Describe the complete sensory profile of three products.

99. In the context of food microbiology, organisms that can grow in refrigerated conditions (0-7°C) are called:
(A) Thermophiles
(B) Mesophiles
(C) Psychrotrophs
(D) Xerophiles

100. Arrange the following five of the seven HACCP principles in the correct order:
1. Establish critical limits.
2. Establish monitoring procedures.
3. Conduct a hazard analysis.
4. Establish corrective actions.
5. Determine Critical Control Points (CCPs).

Choose the correct sequence:
(A) 3, 5, 1, 2, 4
(B) 3, 1, 5, 2, 4
(C) 5, 3, 1, 4, 2
(D) 1, 2, 3, 4, 5

101. Which term describes the phenomenon where starch molecules leak out of granules and form a network during the cooling of a cooked starch paste?
(A) Gelatinization
(B) Dextrinization
(C) Syneresis
(D) Retrogradation

102. The primary objective of an institutional food service at a university hostel is to:
(A) Offer gourmet, a la carte dining options.
(B) Provide large-scale, balanced meals via cyclic menus.
(C) Maximize profit from each student.
(D) Focus entirely on fast food to appeal to students.

103. In research methodology, a "concept" is best described as:
(A) A collection of raw data.
(B) The final conclusion of the study.
(C) An abstract idea forming the research problem basis.
(D) A statistical test used for data analysis.

104. Which of the following is an example of applying nanotechnology in new product development?
(A) Using a larger-sized grinder for spices.
(B) Packing a product in a bigger box for better

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visibility.
(C) Increasing the sugar content for better taste.
(D) Creating low-fat spreads using nano-sized fat droplets.

105. Consider the following statements about menu planning:
1. A menu should reflect the food service's mission and goals.
2. The skill level of the kitchen staff is an important factor to consider.
3. The availability of equipment can limit the types of dishes offered.
4. Food cost is the only variable that matters in menu planning.

Which of the above statements are correct?
(A) 1 and 4 only
(B) 2 and 3 only
(C) 1, 2, and 3 only
(D) 1, 2, 3, and 4

106. The weeping of liquid from a gel, such as in yogurt or jelly, is known as:
(A) Retrogradation
(B) Syneresis
(C) Gelatinization
(D) Denaturation

107. Identifying the correct statement regarding food preservation:
(A) Canning is a low-temperature preservation method.
(B) Pickling preserves food by creating a high-pH environment.
(C) Smoking food only adds flavor and has no preservative effect.
(D) Irradiation sterilizes food without the use of heat.

108. A researcher is studying the effect of a new teaching method on student performance. The "teaching method" is which type of variable?
(A) Independent variable
(B) Dependent variable
(C) Extraneous variable
(D) Control variable

109. Which of the following is NOT a form of physical hazard in food?
(A) Glass fragment
(B) Metal shaving
(C) Salmonella bacteria
(D) A strand of hair

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110. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : A static menu is often used in fine-dining restaurants and cafes.
Reason (R) : A static menu allows for streamlined purchasing, production, and staff training, leading to consistent quality for signature dishes.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

111. Which method of cooking is a dry-heat method?
(A) Boiling
(B) Steaming
(C) Poaching
(D) Roasting

112. The term that describes all the sensations (smell, taste, texture, temperature) perceived when a food is in the mouth is:
(A) Aroma
(B) Flavor
(C) Umami
(D) Aftertaste

113. Read the following statements regarding the evaluation of food.
Statement I : Objective evaluation of food is free from human bias and provides reproducible results.
Statement II : Subjective evaluation is unnecessary if accurate objective instruments are available.
Which of the statements is/are correct?
(A) Only Statement I is correct.
(B) Only Statement II is correct.
(C) Both I and II are correct.
(D) Neither I nor II is correct.

114. The ISO 22000 standard is related to:
(A) Environmental management systems.
(B) Quality management systems in general.
(C) Occupational health and safety.

(D) Food safety management systems.

115. Match the terms in food service management in List I with their examples in List II.
List I: (Term)
P. Therapeutic Menu
Q. Institutional Menu
R. Social Institution Menu
S. Commercial Menu
List II: (Example/Application)
1. A la carte menu in a restaurant
2. Low-sodium diet plan in a hospital
3. Cyclic menu in a college hostel
4. Budget-controlled menu in an orphanage
Choose the correct option:
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-3, R-4, S-1
(C) P-3, Q-4, R-1, S-2
(D) P-4, Q-1, R-2, S-3

116. A researcher who creates and manipulates data to support a desired outcome is guilty of:
(A) Plagiarism
(B) Fabrication
(C) Bias
(D) Non-compliance

117. The main purpose of adding a humectant like glycerol to a food product is to:
(A) Control moisture and prevent it from drying out.
(B) Enhance its color.
(C) Make it more acidic.
(D) Increase its fat content.

118. In a hospital food service, a "clear liquid diet" would most likely include which of the following items?
(A) Milkshake
(B) Apple juice and clear broth
(C) Cream of tomato soup
(D) Mashed potatoes

119. A food product developer is creating a new granola bar. The stage where the bar is produced in a limited quantity and sold in a few select stores to gauge consumer response is called:
(A) Idea screening
(B) Prototype development
(C) Test marketing
(D) Commercialization

120. Consider the following potential applications of nanotechnology in the food sector:
1. Nanoencapsulation of flavors and vitamins.
2. Nanosensors in packaging to detect spoilage.
3. Improving food texture and emulsion stability.
4. Making food invisible to the naked eye.
5. Creating antimicrobial surfaces for food processing equipment.
Which of the following is the correct combination of applications?
(A) 1, 2, and 4 only
(B) 1, 2, 3, and 5 only
(C) 3, 4, and 5 only
(D) 1, 2, 3, 4, and 5

121. The chemical property "pH" is a measure of a food's:
(A) Acidity or alkalinity
(B) Water content
(C) Fat content
(D) Saltiness

122. Which of the following is NOT an objective of food preservation?
(A) To prevent microbial spoilage.
(B) To increase the nutritional value above the fresh state.
(C) To extend the shelf-life of the food.
(D) To inhibit enzymatic and chemical reactions.

123. The ethical principle of 'beneficence' in research implies that:
(A) The researcher must benefit financially from the study.
(B) The benefits of the research should be kept secret.
(C) The research should maximize possible benefits and minimize possible harms to participants.
(D) The research must be beneficial only to the scientific community.

124. What is the most appropriate description of a 'competency-based' question? A question that tests:
(A) The ability to recall a specific fact or definition.
(B) The ability to guess the correct answer from the given options.
(C) The ability to memorize the entire text.

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(D) The ability to apply knowledge and skills to a real-world scenario or problem.

125. The process of breaking down large fat globules into smaller, more uniformly distributed particles, as is done with milk, is called:
(A) Homogenization
(B) Pasteurization
(C) Fortification
(D) Standardization

126. A food service establishment finds that its food cost is 40% and its total revenue is ₹500,000. What is the cost of food sold?
(A) ₹20,000
(B) ₹200,000
(C) ₹2,000,000
(D) ₹125,000

127. Which of the following is an example of a biological hazard in food?
(A) Pesticide residue
(B) A piece of plastic
(C) Listeria monocytogenes
(D) A cleaning chemical

128. Identifying the correct pair:
(A) Anthocyanin - pH-insensitive pigment
(B) Chlorophyll - Yellow pigment
(C) Myoglobin - Carbohydrate-based pigment
(D) Carotenoid - Fat-soluble pigment

129. A primary difference between institutional food service and commercial food service is that:
(A) Institutional food service has a captive audience and its primary motive is often not profit.
(B) Commercial food service does not need to worry about food safety.
(C) Institutional food service only serves two meals a day.
(D) Commercial food service never uses cyclic menus.

130. Consider the following functions of food packaging:
1. It contains the product.
2. It protects the product from external damage.
3. It provides a medium for information and marketing.
4. It fundamentally alters the nutritional composition of the food within.

Which of the above are correct functions of packaging?
(A) 1 and 2 only
(B) 1, 2, and 3 only
(C) 3 and 4 only
(D) 1, 2, 3, and 4

131. The fundamental concept of research involves:
(A) A casual reading of various books and articles.
(B) An unorganized search for information.
(C) A systematic investigation to reach new conclusions.
(D) A process of restating what is already known.

132. The process of subjecting food to ionizing radiation to kill microorganisms and insects is called:
(A) Pasteurization
(B) Lyophilization
(C) Appertization
(D) Irradiation

133. Which is the most appropriate reason for using a control group in an experimental research study?
(A) To provide a baseline to evaluate the treatment effect.
(B) To increase the sample size of the study.
(C) To test a secondary hypothesis unrelated to the main research question.
(D) To ensure all participants receive some form of treatment.

134. Which of the following food preservation methods works by creating an anaerobic environment and producing acid?
(A) Drying
(B) Fermentation
(C) Freezing
(D) Canning

135. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : The texture of food is a critical physical property influencing consumer acceptance.

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Reason (R) : The texture of food is determined solely by its water content.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

136. In sensory evaluation, a test where a panelist is given two samples and asked to identify the one that has a greater intensity of a specific attribute (e.g., sweetness) is a:
(A) Triangle test
(B) Paired comparison test
(C) Duo-trio test
(D) Hedonic test

137. Which statement about the effect of processing on food is incorrect?
(A) All food processing techniques invariably reduce the nutritional quality of food.
(B) Milling of grains removes the bran and germ, leading to a loss of fiber and B-vitamins.
(C) High-temperature processing can destroy some heat-labile vitamins.
(D) Cooking can sometimes improve the digestibility and bioavailability of certain nutrients.

138. The addition of Vitamin D to milk is an example of:
(A) Preservation
(B) Fortification
(C) Adulteration
(D) Fermentation

139. In the context of research ethics, 'informed consent' must include all of the following EXCEPT:
(A) A description of the research procedures.
(B) Information about potential risks and benefits.
(C) The names and personal details of other participants.
(D) A statement that participation is voluntary.

140. Match the microorganisms in List I with their associated food safety concerns in List II.
List I: (Microorganism)
P. Salmonella spp.
Q. Clostridium botulinum
R. Staphylococcus aureus
S. Aspergillus flavus
List II: (Food Safety Concern)
1. Produces a heat-stable enterotoxin
2. Produces deadly neurotoxin in anaerobic conditions
3. Common cause of food infection from poultry and eggs
4. Aflatoxin production in grains and nuts
Choose the correct option:
(A) P-1, Q-4, R-2, S-3
(B) P-2, Q-3, R-1, S-4
(C) P-3, Q-2, R-1, S-4
(D) P-4, Q-1, R-3, S-2

141. The term 'blanching' refers to a mild heat treatment that is often applied to vegetables before:
(A) Freezing or canning
(B) Frying
(C) Grilling
(D) Serving raw in a salad

142. A 'table d'hôte' menu is one which offers:
(A) Each food item priced and sold separately.
(B) A selection of courses for a single, fixed price.
(C) A limited choice of dishes that change daily.
(D) The same dishes every day of the year.

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143. The development of an off-flavor in fat-containing foods due to oxidation or hydrolysis is called:
(A) Caramelization
(B) Putrefaction
(C) Rancidity
(D) Fermentation

144. Which of the following is a key consideration for food service management in a boarding school?
(A) Providing a la carte service with extensive choices for every meal.
(B) Focusing on elaborate plate presentation over food safety.
(C) Offering a menu primarily consisting of high-sugar, low-nutrient snacks.
(D) Ensuring a balanced menu meeting child nutritional needs.

145. Consider the following statements about research:
1. Research must always be based on empirical and observable evidence.
2. The scope of research defines its boundaries.
3. Ethical considerations are optional for experienced researchers.
4. The relevance of research is determined by its potential contribution to theory or practice.
5. All research must result in a groundbreaking discovery.

Which combination of statements is correct?
(A) 1, 2, and 3 only
(B) 1, 2, and 4 only
(C) 3, 4, and 5 only
(D) 1, 2, 3, 4, and 5

146. A consumer complaint about a piece of metal found in a loaf of bread relates to which type of food hazard?
(A) Biological
(B) Physical
(C) Chemical
(D) Nutritional

147. Read the following statements regarding chemical browning reactions.
Statement I : The Maillard reaction requires high temperatures and the presence of both amino acids and reducing sugars.
Statement II : Caramelization is a reaction involving only sugars at high temperatures.
Which of the statements is/are correct?
(A) Only Statement I is correct.
(B) Only Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

148. A food scientist wants to measure the consistency of tomato ketchup. Which instrument would be most suitable?
(A) A pH meter
(B) A viscometer
(C) A colorimeter
(D) A balance

149. The primary goal of developing a new product in the food industry is to:
(A) Use up excess raw materials in the warehouse.
(B) Create the most scientifically complex food possible.
(C) Meet a perceived consumer need or market opportunity.
(D) Replicate an existing competitor's product exactly.

150. Arrange the typical stages of new product development in a chronological sequence:
1. Commercialization
2. Idea Generation
3. Prototype Development
4. Business Analysis
5. Test Marketing

Choose the correct sequence:
(A) 2, 4, 3, 5, 1
(B) 2, 3, 4, 1, 5
(C) 1, 2, 3, 4, 5
(D) 3, 2, 5, 4, 1

151. Which of the following is NOT a principle of good menu planning?
(A) Variety in color, texture, and flavor
(B) Nutritional balance
(C) Using exclusively the most expensive ingredients available
(D) Consideration of production and service capabilities

152. In a HACCP system, what is the purpose of establishing corrective actions?
(A) To punish the employee responsible for the deviation.
(B) To determine the selling price of the product.
(C) To create the initial list of potential hazards.
(D) To define steps taken when a critical limit is breached.

153. The study of the deformation and flow of matter, highly relevant to the texture of liquid and semi-solid foods, is called:
(A) Rheology
(B) Calorimetry
(C) Photometry
(D) Titration

154. What is the best description for the "scope" of research?
(A) The findings and conclusions of the study.

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(B) The delimitations and boundaries of the research plan.
(C) The list of references used in the literature review.
(D) The statistical software used for analysis.

155. Consider the following food additives:
1. Sorbic acid
2. Sodium benzoate
3. BHA/BHT
4. Monosodium glutamate (MSG)

Which of the above are primarily used as preservatives?
(A) 1 and 4 only
(B) 3 and 4 only
(C) 1, 2, and 3 only
(D) 1, 2, 3, and 4

156. The main challenge in food service management for a high-end commercial restaurant compared to a hospital is:
(A) The need to follow strict therapeutic diet guidelines.
(B) Greater emphasis on satisfaction, ambiance, and profit.
(C) The need to serve thousands of meals in a short time.
(D) A captive audience that does not require marketing.

157. Which of these is a subjective method of food quality evaluation?
(A) Conducting a consumer preference test
(B) Using a pH meter
(C) Using a texture analyzer
(D) Measuring water activity with an aw meter

158. The preservation of food by canning relies on the principle of:
(A) Lowering water activity to inhibit microbial growth.
(B) Using high heat for destruction followed by sealing.
(C) Fermenting the food to produce preservative acids.
(D) Keeping the food at a very low temperature.

159. A research study that aims to find an immediate solution for a specific problem faced by a society or organization is an example of:
(A) Fundamental research
(B) Conceptual research
(C) Applied research
(D) Philosophical research

160. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Nanotechnology has the potential to revolutionize food packaging.
Reason (R) : Nanomaterials can be used to create packaging with improved barrier properties, antimicrobial activity, and sensors for detecting spoilage.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

161. An incorrect pair regarding food properties is:
(A) Color - Solely a Chemical Property
(B) Texture - Physical Property
(C) pH - Chemical Property
(D) Water Activity - Chemical Property

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162. The final step in the HACCP system's seven principles is to:
(A) Conduct a hazard analysis.
(B) Establish record-keeping and documentation procedures.
(C) Determine CCPs.
(D) Establish verification procedures.

163. The purpose of a literature review in research is primarily to:
(A) Copy ideas from other authors to write the research paper.
(B) Prove that no research has ever been done on the topic.
(C) Understand existing knowledge and identify research gaps.
(D) List as many books as possible to make the bibliography look impressive.

164. In food service management, calculating the 'food cost percentage' helps to:
(A) Determine the popularity of a menu item.
(B) Calculate the number of staff required in the kitchen.
(C) Evaluate the nutritional quality of the

menu.
(D) Monitor and control menu item costs relative to their selling price.

165. Match the concepts in List I with their descriptions in List II.
List I: (Concept)
P. Food Science
Q. Food Preservation
R. New Product Development
S. Food Service Management
List II: (Description)
1. Process of creating and launching a novel food item
2. Science of preventing food spoilage
3. The study of the physical and chemical makeup of food
4. Planning and organizing food preparation and service in an institution
Choose the correct option:
(A) P-3, Q-2, R-1, S-4
(B) P-1, Q-3, R-2, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-4, Q-1, R-3, S-2

166. Which statement is true regarding the effect of cooking on proteins?
(A) Cooking has absolutely no effect on the structure or function of proteins.
(B) Heat causes denaturation, which can alter the protein's structure and often improves its digestibility.
(C) All proteins become more difficult to digest after being heated.
(D) Heat converts proteins into carbohydrates.

167. Which of the following is an example of a food additive is a non-nutritive, high-intensity sweetener?
(A) Sucrose
(B) Corn syrup
(C) Aspartame
(D) Dextrose

168. A diet planned for an athlete in a sports institution's food service would primarily focus on:
(A) Low-calorie, low-carbohydrate meals to maintain low body weight.
(B) Aesthetically pleasing but nutritionally poor food.
(C) A clear liquid diet to ensure rapid digestion.
(D) High-carbohydrate, adequate-protein meals for energy and muscle repair.

169. Read the following case study and answer the question that follows.
A food company notices that their potato chips are becoming rancid too quickly. A food scientist suggests adding an ingredient to the packaging or the seasoning mix. Which type of additive would be most appropriate to solve this problem?
(A) An antioxidant like BHT or Vitamin E.
(B) An emulsifier like lecithin.
(C) A humectant like sorbitol.
(D) A gelling agent like pectin.

170. Consider the following ethical considerations in research:
1. Avoiding harm to participants.
2. Ensuring confidentiality and anonymity.
3. Obtaining informed consent.
4. Being honest and transparent in reporting findings.
5. Ignoring negative results that contradict the hypothesis.
Which of the following is the correct combination of valid considerations?
(A) 1 and 5 only
(B) 1, 2, 3, and 4 only
(C) 3, 4, and 5 only
(D) 1, 2, 3, 4, and 5

171. The "Danger Zone" for food, where pathogens multiply most rapidly, is typically considered to be between:
(A) 0°C and 4°C (32°F and 40°F)
(B) 65°C and 80°C (149°F and 176°F)
(C) 5°C and 60°C (41°F and 140°F)
(D) Above 100°C (212°F)

172. A hedonic scale is used in sensory evaluation to measure:
(A) The difference between two products.
(B) The intensity of a specific attribute like saltiness.
(C) The correct identification of an odd sample.
(D) The level of liking or preference for a product.

173. What is the cause-effect relationship between water activity (aw) and food preservation?

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(A) Lowering water activity below the level required for microbial growth preserves food.
(B) Increasing water activity enhances food preservation.
(C) Water activity has no effect on microbial growth.
(D) Lowering water activity destroys microbial spores.

174. Which of the following is a role of research in the field of food service management?
(A) To prove that traditional cooking methods are always superior.
(B) To develop new, more efficient service systems and cost-control methods.
(C) To limit the variety on menus to reduce complexity.
(D) To focus solely on the history of food without practical application.

175. The change in color of red cabbage when lemon juice (acid) is added is due to the pH sensitivity of which pigment?
(A) Carotenoids
(B) Chlorophyll
(C) Anthocyanins
(D) Heme

176. Which of the following is an example of a chemical leavening agent used in baking?
(A) Yeast
(B) Steam
(C) Air
(D) Sodium bicarbonate

177. In menu engineering analysis, an item with low popularity and low profitability is termed a:
(A) Dog
(B) Star
(C) Plowhorse
(D) Puzzle

178. The concept of "food quality" is best described as:
(A) The measure of a food's caloric content only.
(B) Characteristics determining the degree of consumer acceptance.
(C) The price of the food product in the market.
(D) The complexity of the food's chemical structure.

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179. Read the following statements regarding food packaging.
Statement I : Food packaging can serve as a barrier to moisture, oxygen, and light.
Statement II : The primary purpose of food packaging is to increase the weight of the product.
Which of the statements is/are correct?
(A) Only Statement I is correct.
(B) Only Statement II is correct.
(C) Both I and II are correct.
(D) Neither I nor II is correct.

180. Consider the following food preservation methods:
1. Canning
2. Freezing
3. Drying
4. Pickling

Which of these methods primarily works by reducing water activity?
(A) 1 and 2 only
(B) 3 only
(C) 2, 3, and 4
(D) 3 and 4 only

181. The term for research that is conducted to understand the fundamental principles or concepts of a subject, without an immediate practical application in mind, is:
(A) Applied research
(B) Action research
(C) Evaluation research
(D) Fundamental research

182. Which of the following is an identifying characteristic of food service in a hospital setting?
(A) The menu is primarily designed to maximize profit.
(B) The role of dietitians and the need for therapeutic diets.
(C) The audience is not captive and has many other dining choices.
(D) Food safety is a minor consideration.

183. Which of the following is NOT a physical property of food?
(A) Viscosity
(B) Color
(C) Starch content

(D) Texture

184. The browning and flavor development on the crust of bread during baking is primarily due to:
(A) Enzymatic browning
(B) Protein coagulation
(C) Starch retrogradation
(D) Maillard reaction and caramelization

185. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : In research, it is unethical to fabricate or falsify data.
Reason (R) : Fabrication and falsification of data undermine the integrity of scientific inquiry and can lead to harmful or incorrect conclusions.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

186. The addition of baking soda (an alkali) to green vegetables during cooking will:
(A) Turn them an olive-drab color.
(B) Result in a mushy texture and destruction of B vitamins.
(C) Preserve their firm texture perfectly.
(D) Have no effect on color or texture.

187. Nanotechnology in food is considered an application within which of the following areas?
(A) Research ethics
(B) Food cost analysis
(C) New product development
(D) Subjective quality evaluation

188. Which of the following is a correctly pairs a food standard/mark with its general scope in India?
(A) FSSAI License - All food business operators
(B) AGMARK - Industrial products
(C) FPO Mark - Meat and poultry products
(D) ISI Mark - Processed fruit products

189. A researcher wants to study the changes in eating habits of a group of college students over their four years of college. Which research design would be most appropriate?
(A) Cross-sectional study
(B) Historical study
(C) Longitudinal study
(D) Case study of a single student

190. Match the HACCP principles in List I with their corresponding statements in List II.
List I: (Principle)
P. Principle 1
Q. Principle 2
R. Principle 3
S. Principle 7
List II: (Statement)
1. Establish critical limits
2. Establish record-keeping and documentation procedures
3. Conduct a hazard analysis
4. Determine the Critical Control Points (CCPs)
Choose the correct option:
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-1, S-2
(C) P-2, Q-3, R-4, S-1
(D) P-4, Q-1, R-2, S-3

191. A key advantage of using a cyclic menu in an institutional setting is that it:
(A) Offers unlimited choice to the customer every day.
(B) Requires highly skilled chefs capable of creating new dishes daily.
(C) Eliminates the need for any kind of menu planning.
(D) Simplifies purchasing and aids operational cost control.

192. Which of the following is NOT a form of moist-heat cooking?
(A) Boiling
(B) Baking
(C) Steaming
(D) Stewing

193. The purpose of a 'pilot plant' in new product development is to:
(A) Design the final packaging artwork.
(B) Conduct initial consumer taste panels.
(C) Test the product on a small-scale production line to resolve issues before full-scale manufacturing.
(D) Formulate the initial recipe in a lab.

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194. Which of the following is a key component of food science?
(A) The study of dietary patterns and chronic disease.
(B) The management of food service staff.
(C) The analysis of food market trends.
(D) The study of food microbiology, chemistry, and engineering.

195. A food manufacturer wants to create a long-shelf-life liquid product that is safe at room temperature. Consider the following processes:
1. Pasteurization
2. Sterilization (e.g., UHT processing)
3. Aseptic packaging
4. Refrigerated storage
5. Open-air bottling

Which of the above are essential?
(A) 1 and 4 only
(B) 2 and 3 only
(C) 1 and 5 only
(D) 2, 4, and 5 only

196. The main role of ethics in research is to:
(A) Ensure the research is completed as quickly as possible.
(B) Guide the conduct of researchers to protect participants and ensure the integrity of the findings.
(C) Ensure the research is funded by a reputable source.
(D) Help researchers publish in as many journals as possible.

197. Which of these is a definition-based question?
(A) What is the definition of "food preservation"?
(B) What is the effect of heat on Vitamin C?
(C) Why is HACCP important in food safety?
(D) Compare and contrast subjective and objective evaluation.

198. The physical property of a food that relates to how it deforms, breaks, or flows when a force is applied is known as:
(A) Color
(B) Texture
(C) pH
(D) Water activity

199. Food additives are substances added to food to:
(A) Only increase the caloric value.
(B) Act as a substitute for all the main ingredients.
(C) Maintain or improve safety, freshness, taste, texture, or appearance.
(D) Only to be used in case of emergencies.

200. Arrange the following food preservation methods in the chronological order of their historical development/widespread use, from earliest to most recent:
1. Canning
2. Drying (Sun drying)
3. Irradiation
4. Freezing (Mechanical)

Choose the correct sequence:
(A) 2, 1, 4, 3
(B) 1, 2, 3, 4
(C) 2, 4, 1, 3
(D) 3, 2, 1, 4

201. Which of the following is a function of the Food Safety and Standards Authority of India (FSSAI)?
(A) Setting prices for agricultural commodities.
(B) Setting science-based standards and regulating food cycles.
(C) Promoting the export of Indian spices.
(D) Conducting research on new crop varieties.

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202. Read the following statements regarding hospital food services.
Statement I : A menu in a hospital is a communication tool between the dietitian and the patient.
Statement II : A menu in a hospital primarily serves as a marketing tool to attract outside customers.
Which of the statements is/are correct?
(A) Only Statement I is correct.
(B) Only Statement II is correct.
(C) Both I and II are correct.
(D) Neither I nor II is correct.

203. The concept of "scalability" in new product development refers to:
(A) The ability to accurately weigh the product.
(B) The nutritional profile of the product.
(C) The feasibility of moving from pilot to commercial scale.
(D) The product's final selling price.

204. In research, what does "validity" refer to?
(A) The consistency and repeatability of a measurement.
(B) The number of people participating in the study.
(C) The statistical significance of the results.
(D) The extent to which a research instrument measures what it is intended to measure.

205. Consider the following regarding quality evaluation of food:
1. Sensory analysis is a subjective method.
2. A viscometer provides an objective measure of viscosity.
3. A trained panel can provide more reliable subjective data than an untrained consumer panel.
4. Objective methods completely replace the need for sensory analysis in product development.

Which of the above statements are correct?
(A) 1 and 2 only
(B) 1, 2, and 3 only
(C) 3 and 4 only
(D) 1, 2, 3, and 4

206. A key difference between pasteurization and sterilization is that:
(A) Pasteurization aims to kill all microorganisms including spores, while sterilization does not.
(B) Sterilization aims to kill all microorganisms including spores, while pasteurization aims to reduce pathogenic/spoilage organisms.
(C) Pasteurization uses irradiation, while sterilization uses heat.
(D) Sterilization is a low-temperature process, while pasteurization is a high-temperature process.

207. Which of the following is an example of an emulsifier naturally found in egg yolk?
(A) Pectin
(B) Casein
(C) Gluten
(D) Lecithin

208. The main purpose of cost analysis for a menu item is to:
(A) Determine the precise cost of all ingredients in a single portion to set a profitable selling price.
(B) Ensure the item is the most delicious option possible, regardless of cost.
(C) Count the calories in the menu item.
(D) Choose ingredients based only on their color.

209. The relevance of research on the 'effects of processing techniques on nutritional components' is primarily to:
(A) Make food processing more complicated and expensive.
(B) Discourage the consumption of all processed foods.
(C) Help food manufacturers optimize processes to maximize nutrient retention.
(D) Create a list of all vitamins and minerals.

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210. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : The menu is the core of any food service operation.
Reason (R) : The menu dictates nearly all operational aspects, including what is purchased, what equipment is needed, and the skill level required of the staff.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

211. Which of these is an example of a chemical hazard in food?
(A) A piece of bone in minced meat.
(B) Norovirus on fresh berries.
(C) A moldy spot on bread.
(D) Residue of a cleaning sanitizer on a food contact surface.

212. What is the best method to evaluate if there is a perceptible difference between two cola formulations?
(A) A pH measurement
(B) A Triangle Test
(C) A Brix hydrometer reading
(D) A hedonic rating scale

213. The management of food services in an educational institution like a university primarily requires a balance between:
(A) Gourmet quality and high prices.
(B) Therapeutic dietary requirements and a la carte service.
(C) Preferences, nutrition, speed, and budget constraints.
(D) Fine dining ambiance and slow, relaxed service.

214. A key ethical requirement before starting a research study involving a survey of people's eating habits is:
(A) To guarantee that the results will be published.
(B) To pay every participant a large sum of money.
(C) To ensure the survey is as long and detailed as possible.
(D) To obtain informed consent from the participants.

215. Match the food components in List I with their changes during processing/cooking in List II.
List I: (Food Component)
P. Starch
Q. Protein
R. Sugars
S. Fats
List II: (Change)
1. Denaturation
2. Rancidity
3. Gelatinization
4. Caramelization
Choose the correct option:
(A) P-1, Q-3, R-2, S-4
(B) P-2, Q-4, R-1, S-3
(C) P-3, Q-1, R-4, S-2
(D) P-4, Q-2, R-3, S-1

216. Which of the following is NOT a food additive?
(A) Sodium erythorbate used as an antioxidant
(B) Salt used for seasoning
(C) Tartrazine used as a colorant
(D) Xanthan gum used as a thickener

217. The swelling of starch granules when heated in water is called:
(A) Gelatinization
(B) Retrogradation
(C) Denaturation
(D) Dextrinization

218. What does "food cost analysis" primarily involve in food service management?
(A) Surveying customers about how much they are willing to pay.
(B) Calculating the cost of ingredients, labor, and overhead to determine profitability.
(C) Analyzing the nutritional content of the food.
(D) Comparing the menu design with that of competitors.

219. A food's "shelf life" is most accurately determined by its:
(A) Selling price.
(B) Brand name.
(C) Chemical makeup, microbial load, and packaging.
(D) Color alone.

220. A research team is developing a new food product. Consider the following activities:
1. Conducting sensory evaluation with consumer panels.
2. Performing chemical analysis to determine nutrient content.
3. Establishing a HACCP plan for its production.
4. Calculating the potential food cost and selling price.
5. Ignoring all food safety regulations to speed up the process.
Which combination of activities is relevant to their project?
(A) 1 and 2 only
(B) 1, 2, 3, and 4 only
(C) 3, 4, and 5 only
(D) 1, 2, 3, 4, and 5

221. The main difference between a food infection and a food intoxication is:
(A) Infection is caused by ingesting the live pathogen, while intoxication is caused by ingesting a toxin produced by the pathogen.
(B) Intoxication is caused by viruses, while infection is caused by bacteria.
(C) Infection has a shorter onset time than intoxication.
(D) There is no difference; the terms are

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interchangeable.

222. The term 'Cryogenic freezing' refers to food preservation using:
(A) A standard home freezer.
(B) Very low temperatures, typically using liquid nitrogen or carbon dioxide.
(C) High pressure.
(D) Dehydration under vacuum.

223. What is a 'hypothesis' in the context of research methods?
(A) The final, proven fact.
(B) A question asked by the researcher.
(C) A tentative, testable prediction about the relationship between variables.
(D) The summary of the research findings.

224. Which of the following is a primary focus when managing food service for a special institution like a disaster relief camp?
(A) Providing gourmet meals.
(B) Offering an extensive a la carte menu.
(C) Focusing on elaborate food presentation.
(D) Ensuring rapid, safe, and adequate food distribution.

225. A food scientist is using a Line-Spread Test. What property is being measured?
(A) The consistency or viscosity of a semi-solid food.
(B) The firmness of a solid food.
(C) The color intensity of a liquid.
(D) The pH of a solution.

226. What is the primary reason for pasteurizing milk?
(A) To separate the cream from the milk.
(B) To destroy pathogenic microorganisms and extend shelf life.
(C) To add vitamins and minerals.
(D) To turn the milk into yogurt.

227. Identify the incorrect statement about food pigments.
(A) Chlorophyll is responsible for the green color of plants.
(B) Carotenoids are precursors to Vitamin A.
(C) Anthocyanins are stable across all pH levels.
(D) Myoglobin is the pigment responsible for the color of meat.

228. From a research ethics perspective, what is the most significant problem with plagiarism?
(A) It makes the paper longer than necessary.
(B) It is difficult for computer software to detect.
(C) It requires citing too many sources.
(D) It violates intellectual property rights and represents a form of academic dishonesty.

229. Portion control in food service management is essential for:
(A) Ensuring consistency and controlling food costs.
(B) Making the plates look empty.
(C) Limiting the amount of food a customer can eat.
(D) Speeding up the washing of dishes.

230. Consider the following regarding microbiological safety of food:
1. Proper handwashing is a critical step in preventing contamination.
2. The "danger zone" is the temperature range where bacteria grow slowly.
3. Cross-contamination can transfer pathogens from raw to cooked foods.
4. Cooking food to the correct internal temperature can kill most harmful bacteria.

Which of the above statements are correct?
(A) 1, 2, and 3 only
(B) 1, 3, and 4 only
(C) 2 and 4 only
(D) 1, 2, 3, and 4

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231. The use of hurdle technology in food preservation involves:
(A) Using a single, very harsh preservation method.
(B) Placing a physical barrier around the food.
(C) Combining several milder preservation methods to create a series of 'hurdles' that microbes cannot overcome.
(D) A preservation method that has not yet been approved.

232. In the context of new product development, what is 'benchmarking'?
(A) Creating the first prototype on a laboratory bench.
(B) Measuring the height of the workbench in the lab.
(C) Testing the product for its shelf stability.

(D) The process of comparing one's own product or processes against the best-in-class competitors.

233. Which of the following is a key consideration in menu planning for an industrial canteen?
(A) Providing quick, affordable, and energy-providing meals.
(B) Offering an extensive wine list.
(C) Focusing on elaborate, multi-course meals.
(D) Changing the entire menu on a daily basis.

234. The ethical concept of 'justice' in research means that:
(A) The researcher must act as a judge.
(B) The benefits and burdens of research should be distributed fairly among the population.
(C) The research must be legal.
(D) Only certain groups should be selected for risky research.

235. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Objective methods of food evaluation use instruments to measure specific physical or chemical properties.
Reason (R) : Instrumental measurements are often more precise, repeatable, and free from human bias compared to subjective sensory judgments.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

236. Which statement best describes the 'concept' stage in new product development?
(A) The stage of full-scale production and launch.
(B) The stage where the product packaging is designed.
(C) The final stage of calculating profits after one year of sales.
(D) The stage where a detailed product idea is consumer tested.

237. The 'AGMARK' standard in India is a quality mark for:
(A) Agricultural and livestock products
(B) Industrial machinery
(C) Processed fruit products
(D) Electrical appliances

238. In food science, 'syneresis' is most likely to be observed in which food product?
(A) A piece of dry toast
(B) A fruit jelly that has been stored for a while
(C) A bottle of vegetable oil
(D) A handful of peanuts

239. The most significant challenge for food service management in a hospital is:
(A) Creating a lively and loud dining atmosphere.
(B) Competing with nearby fast-food restaurants.
(C) Balancing patient therapeutic needs and food safety.
(D) Maximizing the sale of high-profit side dishes and desserts.

240. Match the terms in List I with their fields of application in List II.
List I: (Term)
P. HACCP
Q. Menu Engineering
R. Hedonic Scale
S. Informed Consent
List II: (Field of Application)
1. Sensory Evaluation
2. Research Methods
3. Food Safety Management
4. Food Service Management
Choose the correct option:
(A) P-3, Q-4, R-1, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-1, R-4, S-3

241. What is the fundamental difference between physical and chemical properties of food?
(A) Physical properties can be observed without changing the food's chemical composition, while observing chemical properties involves a chemical change.
(B) Physical properties relate to safety, while chemical properties relate to taste.
(C) Physical properties are measured with instruments, while chemical properties are

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measured by taste.
(D) There is no fundamental difference; the terms are used interchangeably.

242. Read the following statements regarding types of menus.
Statement I : A cyclic menu repeats over a specific period, such as a week or a month.
Statement II : A static menu offers the same items every day.
Which of the statements is/are correct?
(A) Only Statement I is correct.
(B) Only Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Neither Statement I nor Statement II is correct.

243. The primary risk associated with improperly canned low-acid foods is the growth of:
(A) Salmonella enteritidis
(B) Escherichia coli O157:H7
(C) Clostridium botulinum
(D) Listeria monocytogenes

244. The main purpose of a 'control' in a scientific experiment is to:
(A) Increase the number of variables in the study.
(B) Ensure the experiment works as expected.
(C) Complicate the data analysis process.
(D) Provide a standard of comparison for the experimental group.

245. Consider the following considerations for managing food service in a senior citizen home:
1. Menus with soft, easy-to-chew foods.
2. Attention to specific dietary restrictions like low sodium or low sugar.
3. Nutrient-dense food to combat malnutrition.
4. Offering spicy, trendy, and fast-food style meals.
5. High-volume, rapid service as the top priority.

Which of the above are considered key considerations?
(A) 1, 2, and 3 only
(B) 4 and 5 only
(C) 1, 2, and 5 only
(D) 1, 2, 3, 4, and 5

246. The study of how the body ingests, digests, absorbs, transports, utilizes, and excretes food substances is called:
(A) Food Science
(B) Nutrition
(C) Food Technology
(D) Food Microbiology

247. A researcher is manipulating one variable to see its effect on another variable. This is characteristic of what type of research?
(A) Descriptive research
(B) Historical research
(C) Experimental research
(D) Correlational research

248. The addition of nitrites to cured meats serves all the following purposes EXCEPT:
(A) Fixing a pinkish-red color.
(B) Inhibiting the growth of Clostridium botulinum.
(C) Providing a characteristic cured flavor.
(D) Acting as a primary sweetening agent.

249. In food service menu planning, 'variety' refers to avoiding repetition in:
(A) Color, flavor, texture, food shape, and method of preparation.
(B) Color, flavor, and texture only.
(C) Method of preparation only.
(D) Price point only.

NODIA

250. Arrange the following steps of the HACCP system in chronological order:
1. Establish monitoring systems for each CCP.
2. Determine Critical Control Points (CCPs).
3. Conduct a hazard analysis.
4. Establish critical limits for each CCP.

Choose the correct sequence:
(A) 3, 2, 4, 1
(B) 2, 3, 1, 4
(C) 3, 4, 2, 1
(D) 1, 2, 3, 4

Direction : Please read the following source carefully.

The intrinsic characteristics of food are defined by its physical and chemical properties, which are fundamental to food science and nutrition. Physical properties are those attributes that can be measured without changing the chemical

composition of the food. These include texture, which encompasses hardness, cohesiveness, and springiness; viscosity, a measure of a fluid's resistance to flow, critical for products like sauces and soups; colour, a primary indicator of quality and ripeness; and specific gravity. Chemical properties, on the other hand, relate to the food's composition and the chemical reactions it can undergo. Key chemical properties include moisture content, which significantly impacts shelf life and microbial growth; pH and total acidity, which influence flavour, colour stability of pigments, and the environment for microbial activity; and the content of macronutrients (carbohydrates, proteins, fats) and micronutrients. The interplay between these properties is crucial. For example, the chemical process of protein denaturation (a change in chemical structure) directly affects the physical property of texture, as seen when cooking an egg. Similarly, the pH of a fruit juice can affect both its taste and the stability of its colour pigments. Understanding these properties allows food scientists to predict and control changes during processing, storage, and preparation.

Based on the above source, attempt the following five questions.

251. Which of the following is exclusively classified as a chemical property of food according to the source?
(A) The viscosity of a honey sample.
(B) The pH value of a tomato puree.
(C) The hardness of a biscuit.
(D) The colour intensity of a fruit.

252. The passage suggests a direct relationship between which chemical and physical property?
(A) Protein denaturation and texture.
(B) Moisture content and specific gravity.
(C) Total acidity and viscosity.
(D) Carbohydrate content and colour.

253. According to the passage, what is the primary significance of understanding both physical and chemical properties of food?
(A) To exclusively focus on enhancing the flavour of new products.
(B) To reduce the overall cost of food production for manufacturers.
(C) To predict and manage changes in food during handling and processing.
(D) To replace all traditional cooking methods with modern ones.

254. Based on the information provided, a food scientist aiming to extend the shelf life of a product would be most concerned with which chemical property?
(A) Specific gravity.
(B) Springiness.
(C) Cohesiveness.
(D) Moisture content.

255. The passage implies that the colour of a food product is:
(A) Solely a chemical property unrelated to its physical state.
(B) An unchangeable attribute once the food is processed.
(C) A physical property that can be influenced by its chemical environment, such as pH.
(D) A property only measurable through taste and smell.

Direction : Please read the following source carefully.

The quality evaluation of foods is a comprehensive process that employs both subjective and objective methodologies to ensure products meet desired standards. Subjective evaluation, also known as sensory analysis, relies on human senses to assess food attributes. It involves using trained or untrained consumer panels to judge characteristics like flavour, aroma, texture, and appearance. Tools such as scorecards and descriptive analysis are often utilized to quantify these perceptions, but the results are inherently based on individual or group opinion and can be subject to psychological biases. In contrast, objective evaluation uses calibrated instruments and established scientific procedures to measure physical and chemical properties, yielding quantitative and reproducible data. Examples include using a colorimeter to measure the precise colour of a juice, a viscometer to determine the thickness of a sauce, or a pH meter to assess acidity. While objective methods provide precise, unbiased data on specific attributes, they cannot capture the holistic sensory experience or consumer acceptability. Therefore, a comprehensive quality assessment program in the food industry typically integrates both approaches. Objective measurements can validate

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sensory perceptions, and sensory evaluation can provide context and assess the consumer relevance of instrumental data, ensuring the final product is not only technically sound but also appealing to the consumer.

Based on the above source, attempt the following five questions.

256. Which of the following scenarios best represents a subjective evaluation of food quality?
(A) Using a texture analyzer to measure the firmness of an apple.
(B) A panel of consumers rating the creaminess of a yogurt on a 9-point scale.
(C) Employing High-Performance Liquid Chromatography (HPLC) to quantify vitamin C content.
(D) Measuring the browning of a potato slice with a colorimeter.

257. What is the primary limitation of relying solely on objective evaluation methods as described in the passage?
(A) They are prone to psychological biases from the operator.
(B) The data obtained is not quantitative or reproducible.
(C) The instruments used are generally less precise than human senses.
(D) They fail to measure the overall consumer sensory experience and acceptability.

258. According to the passage, why is an integrated approach combining subjective and objective methods considered optimal for food quality evaluation?
(A) It allows sensory data to provide context for instrumental measurements and vice versa.
(B) It reduces the total cost and time required for testing.
(C) It eliminates the need for using human panels entirely.
(D) It focuses exclusively on the chemical properties of the food.

259. The passage implies that data from a viscometer would be considered:
(A) Subjective, as it relates to the sensory feel of a product.
(B) Biased, as it depends on the opinion of the person using the instrument.
(C) Objective, because it is generated by a calibrated instrument.
(D) Irrelevant, as it does not measure consumer preference.

260. A food company wants to know if a new, lower-fat formulation of a cookie is as well-liked as the original. Based on the source, which evaluation method is indispensable for this task?
(A) Subjective evaluation involving a consumer panel.
(B) Objective evaluation using a colorimeter.
(C) Chemical analysis of the fat content.
(D) Physical measurement of the cookie's diameter.

Direction : Please read the following source carefully.

Cooking and processing techniques invariably alter the nutritional and physical characteristics of food. The effects vary significantly depending on the method employed. Thermal processing, such as boiling, leads to the leaching of water-soluble vitamins like Vitamin C and B-complex vitamins into the cooking water, resulting in nutritional loss if the water is discarded. High temperatures can also cause the destruction of heat-labile vitamins. However, cooking can also have beneficial effects, such as the denaturation of proteins, which can improve their digestibility, and the gelatinization of starches, making them more accessible to digestive enzymes. Physical parameters are also profoundly affected. The application of heat often causes a softening of texture in vegetables due to the breakdown of pectic substances in cell walls. Conversely, it can cause toughening in meats if proteins are over-coagulated. Colour changes are common, with processes like the Maillard reaction (a reaction between amino acids and reducing sugars) and caramelization (the oxidation of sugar) contributing to the desirable brown colours and complex flavours in baked and fried foods. Understanding these transformations is critical for optimizing processing methods to maximize nutrient retention and achieve desired sensory qualities like texture and colour, ensuring a final product that is both nutritious and palatable.

Based on the above source, attempt the following five questions.

NODIA

261. According to the passage, discarding the water used to boil vegetables is likely to cause a significant loss of which nutrients?
(A) Fat-soluble vitamins and proteins.
(B) Minerals and indigestible fiber.
(C) Amino acids and complex carbohydrates.
(D) Vitamin C and B-complex vitamins.

262. The Maillard reaction is described as a process that primarily affects which two physical parameters of food?
(A) Texture and moisture content.
(B) Colour and flavour.
(C) Viscosity and acidity.
(D) Nutrient density and digestibility.

263. Based on the passage, what is a positive nutritional outcome of cooking?
(A) The preservation of all heat-labile vitamins.
(B) The concentration of water-soluble nutrients.
(C) The improved digestibility of starches and proteins.
(D) The prevention of any change in food texture.

264. The softening of vegetables during cooking is attributed to which of the following?
(A) The gelatinization of starches.
(B) The caramelization of sugars.
(C) The denaturation of proteins.
(D) The breakdown of pectic substances.

265. What can be inferred about the goal of optimizing food processing techniques from the passage?
(A) To achieve a balance between nutrient retention and sensory appeal.
(B) To eliminate all chemical reactions during cooking.
(C) To exclusively focus on developing brown colours in food.
(D) To ensure that food texture remains unchanged after cooking.

Direction : Please read the following source carefully.

Food preservation encompasses a variety of techniques designed to prevent or slow down spoilage, thereby extending the shelf life of food and ensuring its safety for consumption. The fundamental principles behind these applications are centered on controlling microbial growth and inhibiting detrimental enzymatic and chemical reactions. High-temperature methods, such as pasteurization and sterilization, use heat to destroy microorganisms and deactivate enzymes. Pasteurization involves milder heat treatment that kills most pathogens but not all spoilage organisms, whereas sterilization uses higher temperatures to achieve commercial sterility. Conversely, low-temperature applications like refrigeration and freezing do not destroy microbes but significantly slow their metabolic and reproductive rates. Dehydration, another major preservation method, works by removing water to a level that inhibits the growth of bacteria, yeasts, and molds. This can be achieved through sun drying, hot air drying, or more advanced techniques like freeze-drying. The use of chemical preservatives is another approach, where substances like salt, sugar, vinegar (acid), and synthetic additives create an environment inhospitable to microbes. For example, high concentrations of salt or sugar create osmotic pressure that dehydrates microbial cells. The specific application chosen depends on the type of food, the desired shelf life, and the acceptable changes in sensory qualities.

Based on the above source, attempt the following five questions.

266. What is the primary principle by which dehydration preserves food?
(A) Destroying all microorganisms through high heat.
(B) Removing water to inhibit microbial growth.
(C) Creating high osmotic pressure using sugar.
(D) Deactivating enzymes through freezing temperatures.

267. According to the passage, what is a key difference between pasteurization and sterilization?
(A) Pasteurization uses low temperatures, while sterilization uses high temperatures.
(B) Sterilization achieves commercial sterility, while pasteurization does not kill all spoilage organisms.
(C) Pasteurization kills all microorganisms, while sterilization only kills pathogens.
(D) Sterilization relies on chemical additives, while pasteurization uses heat.

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268. The passage explains that refrigeration and freezing preserve food mainly by:
(A) Slowing down the metabolic rate of microorganisms.
(B) Destroying the cell walls of all bacteria.
(C) Removing all the water content from the food.
(D) Creating an acidic environment that is toxic to microbes.

269. Based on the text, creating a high-sugar jam relies on which preservation mechanism?
(A) The use of high temperature to achieve sterilization.
(B) The deactivation of enzymes through freezing.
(C) The generation of osmotic pressure to dehydrate microbes.
(D) The removal of water content via freeze-drying.

270. Which of the following preservation methods is described as not destroying microorganisms but rather inhibiting their activity?
(A) Sterilization.
(B) Pasteurization.
(C) Hot air drying.
(D) Refrigeration.

Direction : Please read the following source carefully.

Food pigments and additives are two distinct categories of substances that play crucial roles in the appearance, stability, and quality of food products. Food pigments are compounds that impart colour and can be naturally present or added. They are classified into groups like chlorophylls (green, found in plants), carotenoids (yellow, orange, red; in carrots and tomatoes), anthocyanins (red, purple, blue; in berries), and flavonoids. The chemical stability of these pigments is a major concern during processing, as they are susceptible to degradation by heat, light, oxygen, and changes in pH. For instance, the vibrant green of chlorophyll can turn into a dull olive-green pheophytin in acidic conditions during cooking. Food additives, on the other hand, are substances intentionally added to food to perform specific technological functions. Their purpose is not primarily to add colour but to serve roles such as preservation (e.g., nitrates), antioxidation (e.g., BHT), texture modification through emulsifiers and stabilizers, or flavour enhancement. The use of all food additives is strictly regulated by food safety authorities to ensure they are safe for consumption at their specified levels. While a pigment can be an additive if it's used to colour a food, the broader category of additives encompasses a wide range of functional ingredients beyond colour.

Based on the above source, attempt the following five questions.

271. According to the passage, the change of chlorophyll to pheophytin is an example of:
(A) A desirable enhancement of food colour.
(B) The action of a food additive preserving colour.
(C) Pigment degradation due to acidic conditions.
(D) The synthesis of carotenoids during heating.

272. What is the primary distinction made in the passage between food pigments and the broader category of food additives?
(A) Pigments are always natural, whereas additives are always synthetic.
(B) Additives primarily serve functional roles like preservation, while pigments primarily provide colour.
(C) The use of pigments is unregulated, whereas the use of additives is strictly controlled.
(D) Additives are susceptible to pH changes, while pigments are stable under all conditions.

273. A substance added to a salad dressing to prevent the oil and water from separating would be classified as which type of additive?
(A) An antioxidant.
(B) A preservative.
(C) A carotenoid.
(D) An emulsifier.

274. The passage suggests that the stability of which pigment group is highly dependent on pH, light, and heat?
(A) Chlorophylls, carotenoids, and anthocyanins.
(B) Nitrates and BHT.
(C) Emulsifiers and stabilizers.
(D) Preservatives and antioxidants.

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275. Based on the information provided, what is the main reason for regulating food additives?
(A) To ensure they contribute to the food's colour.
(B) To limit their use to only natural sources.
(C) To guarantee their safety for human consumption.
(D) To promote their flavour-enhancing properties above all.

Direction : Please read the following source carefully.

Ensuring the microbiological safety of food is a paramount concern addressed through systematic management systems and adherence to established food standards. A cornerstone of modern food safety management is the Hazard Analysis and Critical Control Points (HACCP) system. HACCP is a preventive, science-based approach that identifies, evaluates, and controls hazards that are significant for food safety. It operates on seven core principles, which guide producers from conducting a hazard analysis to establishing critical limits for each critical control point (CCP), implementing monitoring procedures, defining corrective actions, verifying the system's effectiveness, and maintaining thorough documentation. This system shifts the focus from end-product testing to proactive control of potential hazards, including microbiological ones like Salmonella and E. coli. Complementing HACCP, national and international food standards provide the legal and regulatory framework for food safety. These standards set limits for contaminants, approve additives, and mandate labeling requirements. Furthermore, food packaging plays an integral role in this ecosystem. It serves as a critical barrier, protecting food from external microbial, chemical, and physical contamination during transport and storage, thereby preserving the safety and quality established during production and processing. A failure in packaging integrity can negate the effectiveness of even the most robust HACCP plan.
Based on the above source, attempt the following five questions.

276. What is the fundamental philosophy of the HACCP system?
(A) Proactively identifying and controlling potential food safety hazards during production.
(B) Reacting to food safety issues only after they occur through end-product testing.
(C) Focusing exclusively on the chemical hazards present in food products.
(D) Relying solely on food packaging to ensure the safety of the final product.

277. In the context of the HACCP system, what is a "Critical Control Point" (CCP)?
(A) The final stage where the product is tested for contaminants.
(B) Any step in the food production chain where a hazard might occur.
(C) The packaging station where the food is sealed.
(D) A point in the process where control can be applied to prevent or eliminate a food safety hazard.

NODIA

278. The passage highlights the role of food packaging as:
(A) A primary method for cooking food.
(B) A protective barrier against external contamination.
(C) A decorative element to attract consumers.
(D) A system for identifying chemical hazards within the food.

279. According to the text, how do food standards contribute to food safety?
(A) By developing the seven principles of the HACCP system.
(B) By personally inspecting every food item produced.
(C) By providing a legal framework that includes limits for contaminants and labeling rules.
(D) By focusing only on the microbiological safety and ignoring chemical hazards.

280. What can be inferred from the passage about the relationship between HACCP and food packaging?
(A) An effective HACCP plan makes food packaging unnecessary.
(B) Food packaging is one of the seven principles of HACCP.
(C) HACCP and food packaging are entirely independent and unrelated concepts.
(D) The success of a HACCP system can be compromised by inadequate packaging.

Direction : Please read the following source carefully.

Effective food service management hinges on several core perspectives, with menu planning and food cost analysis being central to operational success and financial viability. The menu is not merely a list of items but the primary control tool that dictates nearly all aspects of a food service operation, including purchasing, staffing requirements, equipment needs, and kitchen layout. Strategic menu planning involves a careful balance of multiple factors: nutritional adequacy for the target clientele, customer preferences and demand, ingredient availability and seasonality, production capacity and staff skill level, and, critically, the budget. Once the menu is set, food cost analysis becomes essential for maintaining profitability. This involves calculating the cost of ingredients for each menu item, often through standardized recipes, and determining the food cost percentage—the ratio of the cost of food sold to the revenue it generates. This metric is a key performance indicator for management. Effective food cost control strategies, such as diligent portion control, minimizing waste, strategic purchasing, and efficient inventory management, are vital. By integrating thoughtful menu planning with rigorous food cost analysis, a food service manager can create offerings that are both appealing to customers and financially sustainable for the business.

Based on the above source, attempt the following five questions.

281. According to the passage, the menu is considered a primary control tool because it:
(A) Influences purchasing, staffing, and equipment decisions.
(B) Is the only factor that determines customer satisfaction.
(C) Is legally required by all food service establishments.
(D) Solely determines the nutritional value of the food.

282. Which of the following is NOT listed as a factor to consider in strategic menu planning?
(A) The skill level of the kitchen staff.
(B) The marketing and advertising budget.
(C) The preferences of the target clientele.
(D) The seasonality of ingredients.

283. What is the main purpose of conducting a food cost analysis as described in the passage?
(A) To develop new, innovative recipes.
(B) To assess and control the financial performance of the menu.
(C) To train kitchen staff on new cooking techniques.
(D) To select the location for a new restaurant.

284. The passage defines "food cost percentage" as the ratio between:
(A) The cost of food sold and the revenue generated from that food.
(B) Total revenue and total operational cost.
(C) The cost of ingredients and the selling price of the menu item.
(D) The number of items sold and the number of customers served.

285. Based on the source, which of the following is a key strategy for food cost control?
(A) Frequently changing the menu to surprise customers.
(B) Using the most expensive ingredients available.
(C) Implementing standardized recipes and portion control.
(D) Reducing the number of staff in the kitchen.

Direction : Please read the following source carefully.

Food service management at the institutional level presents a distinct set of challenges and objectives compared to commercial, profit-driven enterprises. Institutional food service, which caters to establishments like hospitals, educational institutions, and social or special institutions (e.g., orphanages, care homes), typically operates on a non-profit basis with a focus on providing nutritionally adequate meals to a captive audience, often on a large scale. The menu is usually cyclical to offer variety while simplifying planning and procurement. In a hospital setting, food service management is highly specialized, prioritizing therapeutic diets tailored to specific medical conditions, maintaining stringent hygiene standards to protect vulnerable patients, and ensuring nutritional needs are met to support recovery. For educational institutions such as schools and universities, the primary goals are to provide affordable, nutritious meals that

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appeal to students and support their learning and development, often requiring high-volume production and service within short timeframes. In social and special institutions, the food service must be sensitive to the unique dietary, cultural, and social needs of its residents, who may include children or the elderly. Operations in this sector are frequently constrained by very tight budgets, demanding exceptional efficiency in menu planning, purchasing, and waste management to fulfill their mission.

Based on the above source, attempt the following five questions.

286. What is a primary distinguishing feature of institutional food service compared to commercial food service?
(A) A focus on maximizing profit from each meal sold.
(B) The use of à la carte menus with a wide variety of choices.
(C) Catering to a constantly changing and unpredictable clientele.
(D) A primary mission centered on nutrition and welfare rather than profit.

287. In a hospital food service setting, what is the highest priority according to the passage?
(A) Offering gourmet food choices to all patients.
(B) Minimizing food costs above all other considerations.
(C) Providing therapeutic diets and maintaining strict hygiene.
(D) Implementing a rapid, high-volume service model.

288. The passage suggests that a "cyclical menu" is often used in institutional settings primarily to:
(A) Introduce new and exotic dishes every single day.
(B) Simplify operational planning and purchasing while providing variety over time.
(C) Compete with nearby commercial restaurants.
(D) Reduce the nutritional quality of the meals served.

289. A key challenge mentioned for food service management in educational institutions is:
(A) Preparing individual therapeutic diets for each student.
(B) Serving a small, exclusive group of diners.
(C) Operating with an unlimited budget for ingredients.
(D) Managing high-volume production for affordable meals in limited time.

290. What constraint is particularly emphasized for food service in social and special institutions like orphanages?
(A) The challenge of operating within very tight budgetary limits.
(B) The need for rapid service speed.
(C) The demand for highly creative and complex menus.
(D) The requirement to serve only organic food.

NODIA

Direction : Please read the following source carefully.

The evolution of the food industry is increasingly driven by innovation in new product development (NPD), a systematic process that transforms a market opportunity into a saleable food product. The NPD process typically begins with idea generation and screening, followed by concept development, formulation, process design, pilot plant trials, and finally, commercialization and market launch. This entire sequence is heavily consumer-driven, aiming to meet evolving tastes, dietary needs, and lifestyle trends. A significant frontier in this field is the application of nanotechnology. This emerging technology manipulates matter on an atomic and molecular scale to create novel materials and functionalities. In the food sector, nanotechnology offers promising applications such as nanoencapsulation, a process used to protect sensitive bioactive compounds like vitamins, probiotics, or omega-3 fatty acids from degradation during processing and digestion, ensuring their targeted delivery and bioavailability. Nanosensors are being developed for rapid detection of pathogens, allergens, or spoilage indicators in food, enhancing safety and quality control. Furthermore, nanotechnology is being applied to create advanced food packaging materials with improved barrier properties against gases and moisture or with embedded antimicrobial agents to extend shelf life. Despite its potential, the use of nanotechnology in food also brings forth critical questions regarding

consumer safety, long-term health effects, and the need for a robust regulatory framework.

Based on the above source, attempt the following five questions.

291. According to the passage, the new product development (NPD) process is primarily driven by:
(A) The availability of new processing equipment.
(B) The personal preferences of food scientists.
(C) The demands and trends of the consumer market.
(D) The regulations set by government agencies.

292. What is the main function of nanoencapsulation as described in the text?
(A) To protect and deliver sensitive bioactive compounds.
(B) To change the colour and flavour of food products.
(C) To rapidly detect the presence of pathogens.
(D) To create stronger packaging materials.

293. Which of the following is described as a potential application of nanosensors in the food industry?
(A) Enhancing the bioavailability of vitamins.
(B) Improving the barrier properties of packaging.
(C) Protecting probiotics from stomach acid.
(D) Detecting the presence of contaminants or spoilage.

294. The passage indicates that a key contribution of nanotechnology to food packaging is:
(A) Reducing the cost of all packaging materials.
(B) Improving barrier properties or adding antimicrobial functions.
(C) Making packaging materials edible.
(D) Eliminating the need for the NPD process.

295. What significant concern regarding the use of nanotechnology in food is mentioned in the passage?
(A) Its ineffectiveness in protecting bioactive compounds.
(B) Its limited application in new product development.
(C) The need for safety assessment and regulatory oversight.
(D) The lack of consumer interest in technologically advanced foods.

Direction : Please read the following source carefully.

Research in food science and nutrition is a systematic inquiry that addresses fundamental issues and applied problems, establishing its need and relevance in advancing public health and food security. The scope of this research is vast, extending from molecular-level investigations of food components to large-scale population studies on dietary patterns and health outcomes. Fundamental research may explore the chemical properties of a newly discovered plant-based protein, while applied research could focus on developing a shelf-stable food product using that protein. A critical starting point for any research is the formulation of a clear research question, followed by the design of an appropriate methodology for data collection and analysis. However, beyond the technical aspects, ethics form the bedrock of credible research. Ethical conduct is paramount and involves several key principles. For studies involving human subjects, such as sensory evaluation panels or clinical nutrition trials, obtaining informed consent is non-negotiable. This means participants must be fully aware of the study's purpose, procedures, risks, and benefits before agreeing to participate. Furthermore, research ethics demand data integrity, meaning data must be recorded accurately and honestly; avoidance of plagiarism; and the responsible conduct of all research activities to ensure that scientific inquiry is pursued with integrity, honesty, and respect for both human subjects and the scientific process itself.

Based on the above source, attempt the following five questions.

296. According to the passage, what is the primary purpose of research in food science and nutrition?
(A) To exclusively benefit commercial food manufacturers.
(B) To prove that traditional food habits are always superior.
(C) To replace all forms of applied research with fundamental research.
(D) To solve problems related to public health and food security.

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297. Which of the following best exemplifies applied research as described in the text?
(A) Developing a nutrient-fortified biscuit for a school feeding program.
(B) Investigating the molecular structure of a starch granule.
(C) Studying the quantum mechanics of water molecules in ice.
(D) Exploring the history of culinary arts in ancient civilizations.

NODIA

298. What does the principle of "informed consent" in research ethics entail?
(A) Researchers must obtain permission from a government body before starting a study.
(B) Participants must be fully informed about the study before they agree to be part of it.
(C) Researchers must consent to have their data published in any journal.
(D) Participants must agree with the final conclusions of the research study.

299. "Data integrity" in the context of research ethics, as per the passage, refers to:
(A) Using the most advanced software for data analysis.
(B) The accurate and honest recording and reporting of research data.
(C) Storing data in a secure, encrypted format.
(D) Collecting a very large volume of data for statistical significance.

300. The passage suggests that a failure to credit the work of other scientists in a research paper would be a violation of which ethical principle?
(A) Avoidance of plagiarism.
(B) Informed consent.
(C) Data integrity.
(D) Responsible conduct of research funding.

ANSWERS

1. (B) Science and engineering applied to food nature and processing.
Food science is an interdisciplinary field that integrates biological, physical, and engineering sciences to study the nature of foods and the principles underlying food processing. It involves understanding how various factors affect the composition, safety, and quality of food products. By applying scientific principles, food scientists can improve food preservation, develop new products, and ensure the safety of the global food supply chain efficiently.

2. (C) Both Statement I and Statement II are correct.
Food science primarily deals with the physical, chemical, and biological properties of food and the transformations they undergo during handling, processing, and storage. In contrast, nutrition focuses on the physiological and biochemical processes by which the human body utilizes nutrients from food to maintain health and support growth. While both fields are interconnected, food science focuses on the product, while nutrition focuses on the consumer's health outcomes and biochemical utilization.

3. (C) Viscosity
Physical properties of food are characteristics that can be measured or observed without altering the chemical identity of the substance. Viscosity specifically refers to a fluid's resistance to flow and is a crucial physical parameter in determining the texture and quality of liquid foods like sauces, syrups, and dairy products. Other properties like pH and carbohydrate content involve chemical composition, making them chemical rather than purely physical properties in nature for scientists.

4. (D) Rheology
Rheology is the scientific study of the flow and deformation of matter under applied forces, particularly for substances that exhibit complex behavior like gels and semi-solids. When measuring the resistance of a gel to flow, scientists are evaluating its rheological properties. This data is essential for maintaining consistency in food products, ensuring that the texture and mouthfeel meet specific consumer expectations and industrial standards during the manufacturing and storage processes over time.

5. (C) 1, 2, and 4 only
In food science, texture, color, and flavor are essential physical and sensory properties used to evaluate food quality and consumer acceptance. Texture relates to the structural makeup, while color provides visual cues about ripeness or processing quality. Flavor, although perceived through senses, is often categorized alongside physical attributes during quality assessments. Acidity is primarily a chemical property determined by the concentration of hydrogen ions, distinguishing it from the other key physical and sensory attributes.

6. (B) Water activity (aw)
Water activity is a critical chemical property that measures the energy status of water in a food system, directly influencing microbial growth and chemical stability. It represents the ratio of the vapor pressure of water in food to the vapor pressure of pure water. Lowering water activity below specific thresholds inhibits the proliferation of bacteria, yeasts, and molds, thereby extending the shelf life and ensuring the safety of various processed and preserved food products for consumers.

7. (D) Color is a chemical property determined solely by the pH of the food.
Color is primarily considered a physical or optical property of food, although it is often influenced by the presence of specific chemical pigments. While pH can certainly affect the color of certain pigments, such as anthocyanins or chlorophyll, it is not the sole determinant of food color. Other factors, including concentration of pigments, light scattering, and thermal processing, play significant roles in the final visual appearance and color profile of various food items worldwide.

8. (A) Subjective uses sensory panels; objective uses instruments.

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Subjective evaluation involves the use of human senses to judge food quality through sensory panels, which assess attributes like taste, smell, and texture based on personal perception. Conversely, objective evaluation utilizes specialized laboratory instruments to provide measurable and reproducible data on physical or chemical properties, such as using a spectrophotometer for color or a viscometer for flow. Both methods are complementary and essential for ensuring consistent quality and meeting consumer preferences in the food industry.

9. (C) To assess food characteristics as perceived by human senses.
Sensory evaluation panels are structured groups of individuals trained to detect and describe various food characteristics using their sight, smell, taste, touch, and hearing. The primary objective of these panels is to provide qualitative and quantitative data on how human consumers perceive a food product's quality. This information is vital for product development, quality control, and understanding consumer behavior, as it captures sensory nuances that mechanical instruments often fail to detect accurately for producers.

10. (A) Both A and R are true and R is the correct explanation of A.
The chemical environment of a food product, specifically its pH and water activity, directly dictates which microorganisms can survive and thrive. Most bacteria and fungi have very specific requirements for acidity and moisture availability to undergo metabolic processes. Therefore, controlling these parameters is a fundamental strategy for preventing microbial spoilage and extending shelf life. The clear relationship between these chemical properties and microbial growth justifies why they are the primary determinants of food product stability.

11. (D) Objective evaluation
Utilizing a colorimeter to record L*, a*, and b* values provides a precise and standardized numerical representation of a product's color. This method is considered an objective evaluation because it relies on calibrated mechanical sensors rather than human visual perception, which can be influenced by lighting or personal bias. Objective measurements ensure consistency across different production batches and provide reliable data for quality control processes, allowing manufacturers to maintain the visual standards expected by their target consumers.

12. (B) Gas chromatography
Subjective quality evaluation relies on human sensory perception to assess food attributes through tests like the triangle test, paired comparison, or hedonic rating scales. These methods capture how individuals experience flavor, texture, and appearance. In contrast, gas chromatography is an objective instrumental technique used to separate and analyze volatile chemical compounds within a food sample. It provides precise chemical data about the food's composition and flavor profile without the variability associated with human testers or personal preference factors in trials.

13. (C) Duo-trio test
The duo-trio test is a discriminative sensory evaluation method used to determine if a detectable difference exists between two samples. In this test, participants are provided with a reference sample followed by two coded samples, one of which matches the reference. The panelist must identify which coded sample is identical to the reference. This specific approach is highly effective for manufacturers when they change ingredients or formulations and need to ensure that the final product remains consistent for consumers.

14. (D) Inactivate enzymes causing off-flavors and changes.
Blanching is a mild thermal process that involves exposing vegetables to boiling water or steam for a short duration followed by rapid cooling. The primary purpose of this technique is to denature and inactivate specific oxidative enzymes, such as peroxidase and lipoxygenase, which would otherwise lead to the degradation of color, flavor, and texture during frozen storage. Additionally, blanching helps to reduce the microbial load on the surface and removes air trapped within the vegetable tissues.

15. (A) P-2, Q-3, R-1, S-4
Different food processing techniques serve specific preservation roles. Pasteurization

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involves mild heat treatment to kill vegetative pathogens and inactivate enzymes. Sterilization uses much higher temperatures to destroy all living microorganisms, including highly resistant bacterial spores. Dehydration functions by removing moisture to significantly reduce water activity, which prevents microbial growth. Freezing preserves food by lowering the temperature to a level where microbial and enzymatic activities are slowed down considerably. These combined methods ensure that diverse food products remain safe.

16. (B) The bioavailability of certain nutrients, like lycopene in tomatoes, can be increased by cooking.
While heat can often lead to the degradation of sensitive vitamins, it can also enhance the nutritional value of certain foods by breaking down tough cellular structures. For instance, cooking tomatoes helps release lycopene from the plant matrix and converts it into a chemical form that is more easily absorbed by the human body. This demonstrates that food processing can sometimes improve the bioavailability of essential phytochemicals, making them more effective for supporting human health and wellness goals for individuals.

17. (B) Enzymatic browning
Enzymatic browning occurs when the enzyme polyphenol oxidase, found in many fruits and vegetables, reacts with phenolic compounds in the presence of oxygen. This reaction takes place when the plant tissues are damaged, such as when an apple is cut or bruised, exposing the interior cells to the air. The result is the formation of brown pigments known as melanins. This process can be inhibited by applying acids, antioxidants, or heat to denature the enzymes involved.

18. (A) Lowering the water activity (aw) to prevent microbial proliferation.
The fundamental goal of food drying is to remove a sufficient amount of water to lower the water activity of the product to a safe level. Most pathogenic and spoilage microorganisms require a minimum amount of available moisture to grow and reproduce. By reducing this moisture, the shelf life of the food is significantly extended without necessarily requiring refrigeration. This preservation method effectively inhibits microbial activity and slows down many chemical reactions that would otherwise cause food to deteriorate quickly.

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19. (C) Maillard reaction between amino acids and reducing sugars
The Maillard reaction is a complex non-enzymatic browning process that occurs when food is heated to high temperatures, typically during searing, roasting, or baking. It involves a chemical interaction between the carbonyl groups of reducing sugars and the amino groups of proteins. This reaction is responsible for the formation of hundreds of different flavor compounds and the characteristic brown color on the surface of cooked meats and bread. It significantly enhances the savory aroma and taste of cooked food products.

20. (D) 1, 2, 3, 4, and 5
Food preservation involves various techniques designed to extend shelf life, maintain nutritional quality, and ensure food availability throughout the year, especially during off-seasons. These methods are also crucial for reducing post-harvest losses and can even enhance the sensory or organoleptic properties of certain items, such as in the case of fermented foods. By inhibiting spoilage and pathogenic growth, preservation ensures that the food supply remains safe, diverse, and sustainable for the population while minimizing waste.

21. (C) Chlorophyll
Chlorophyll is the primary green pigment found in leafy vegetables and other plants, playing a vital role in photosynthesis. In food science, it is known for being highly sensitive to heat and acidic environments. When exposed to acids during cooking, chlorophyll loses magnesium from its structure and transforms into pheophytin, which has a dull, olive-brown color. Conversely, cooking in alkaline conditions can lead to a bright green color, although this often results in a mushy texture.

22. (C) Both Statement I and Statement II are correct.
Anthocyanins and carotenoids are two major groups of pigments responsible for the diverse colors of fruits and vegetables. Anthocyanins provide red, purple, and blue hues and are

highly reactive to changes in pH, which can alter their color significantly. Carotenoids, on the other hand, produce yellow, orange, and red shades and are fat-soluble molecules. They are generally more stable to heat and pH changes than anthocyanins, making them resilient during various common food processing and cooking methods.

23. (D) Antioxidant
Antioxidants are food additives specifically used to prevent or delay the oxidation of fats and oils. Oxidation is a chemical reaction that leads to the development of off-flavors, unpleasant odors, and the loss of nutritional quality, a condition commonly referred to as rancidity. By neutralizing free radicals and interrupting the oxidation chain reaction, antioxidants like BHA, BHT, and Vitamin E help maintain the freshness, stability, and shelf life of lipid-containing food products throughout their storage period.

24. (A) Help mix and stabilize two immiscible liquids, like oil and water.
Emulsifiers are surface-active substances that possess both hydrophilic and lipophilic properties, allowing them to bridge the gap between two immiscible liquids like oil and water. By reducing surface tension, emulsifiers help form a stable mixture called an emulsion, preventing the layers from separating. Natural emulsifiers like lecithin are widely used in products such as mayonnaise, dressings, and chocolate to ensure a smooth, consistent texture and prevent the ingredients from breaking apart during storage and handling.

25. (C) Betalains
The distinctive deep red and purple colors found in beets are attributed to a group of pigments known as betalains. These pigments are water-soluble and are chemically distinct from other common plant pigments like anthocyanins. Betalains are divided into two categories: betacyanins, which are reddish-purple, and betaxanthins, which are yellow to orange. They are relatively stable at certain pH levels but can be sensitive to prolonged heat exposure, which may lead to color fading during some industrial processing.

26. (A) Sodium Benzoate
Sodium benzoate is a widely used food additive that functions as a preservative by inhibiting the growth of bacteria, yeasts, and molds. It is particularly effective in acidic environments, making it a common choice for preserving carbonated drinks, fruit juices, jams, and pickles. By preventing microbial spoilage, it ensures that food products remain safe for consumption over an extended shelf life. Unlike flavor enhancers or thickeners, its primary role is to maintain the biological stability of the food.

27. (D) AGMARK
AGMARK is a legally mandated quality certification mark used on various agricultural products in India, ensuring that they conform to a set of standards approved by the Directorate of Marketing and Inspection. This certification covers a wide range of commodities, including pulses, cereals, essential oils, fruits, and vegetables. By providing a standardized grading system, AGMARK helps protect consumers by guaranteeing the quality and purity of agricultural items, while also facilitating better trade and marketing practices for producers.

28. (B) Hazard Analysis and Critical Control Points
HACCP stands for Hazard Analysis and Critical Control Points, which is a systematic and internationally recognized approach to identifying and managing food safety risks. Unlike traditional inspection methods that focus on the finished product, HACCP is a preventive system that analyzes every step of the food production process, from raw material sourcing to distribution. By establishing critical limits and monitoring procedures at key points, the system effectively reduces the likelihood of biological, chemical, or physical contamination, ensuring safety.

29. (C) Protect food from physical, chemical, and microbial contamination.
The primary function of food packaging is to provide a protective barrier that safeguards the product from various external threats, including physical damage, chemical interactions, and microbial contamination. Effective packaging maintains the integrity and safety of the food from the point of manufacture until it reaches the final consumer. While it also serves roles in communication and convenience, its most

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critical contribution is extending the shelf life and ensuring that the food remains wholesome and fit for consumption.

30. (B) 2 and 3 only
The HACCP system is a proactive management tool designed to identify and control potential hazards before they occur in the food production process. Key principles include performing a detailed hazard analysis and establishing critical limits for each identified control point. Unlike reactive systems that rely solely on testing the finished product after production is complete, HACCP focuses on rigorous process control. This preventive approach ensures that safety is built into the manufacturing process, protecting public health more reliably.

31. (A) Food intoxication
Food intoxication occurs when an individual consumes food containing toxins that were produced by microorganisms while the food was being stored. In the case of Clostridium botulinum, the bacteria produce a highly potent neurotoxin under anaerobic conditions, such as in improperly sealed cans. Unlike food infections, where the living pathogen causes the illness after ingestion, intoxication results from the pre-formed toxin itself. This highlights the critical importance of proper thermal processing and sealing in food preservation.

32. (B) Nutrient enhancement
Food packaging serves several essential roles, including containment, protection from environmental factors, and communication of nutritional and handling information. However, the packaging material itself is not intended to enhance the nutritional content of the food within it. While some advanced packaging may help preserve existing nutrients by blocking light or oxygen, the addition of nutrients is achieved through fortification or formulation during the processing stage, rather than through the primary functions of the physical packaging container.

33. (B) Understanding target customer needs and preferences.
Effective menu planning begins with a thorough understanding of the target customer base, including their dietary needs, cultural preferences, and spending habits. The menu serves as the primary interface between the food service operation and its patrons. By identifying what the customers want and need, a manager can create a balanced and appealing menu that drives satisfaction and ensures financial viability. All subsequent steps, such as sourcing ingredients and calculating costs, are dictated by these initial findings.

34. (A) (Cost of Food Sold / Total Food Revenue) x 100
The food cost percentage is a vital financial metric used in food service management to evaluate the relationship between the cost of ingredients and the revenue generated from sales. It is calculated by dividing the total cost of food sold by the total food revenue and multiplying the result by one hundred. Monitoring this percentage allows managers to assess profitability, control waste, and make informed decisions regarding menu pricing, portion sizes, and ingredient sourcing strategies for the operation.

35. (A) Both A and R are true and R is the correct explanation of A.
In food service management, the menu is considered the central control tool because it dictates every other aspect of the operation. The items listed on the menu determine the raw materials that must be purchased, the specific equipment needed for preparation, the number and skill level of the staff required, and the layout of the facility. Consequently, effective menu planning is essential for controlling costs and ensuring that the entire operation runs efficiently and meets its goals.

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36. (D) Static menu
A static menu is a type of menu that remains the same every day, offering a fixed selection of dishes to customers. This type of menu is commonly found in restaurants, fast-food outlets, and cafes where patrons expect consistency in the available choices. From a management perspective, static menus simplify the processes of purchasing, inventory control, and staff training, as the production requirements are repetitive and predictable, allowing for high efficiency and standardized quality in every dish.

37. (C) Cyclic menu

A cyclic menu consists of a series of menus that are repeated over a specific period, such as several weeks or months. This approach is frequently used in institutional settings like school cafeterias, hospitals, and long-term care facilities to provide variety while maintaining operational efficiency. By rotating through a set of planned meals, managers can better predict ingredient needs, manage inventory, and ensure nutritional balance, all while reducing the menu planning effort required on a daily basis.

38. (B) Menu engineering
Menu engineering is a strategic analysis tool used to evaluate the performance of menu items based on two key metrics: their popularity among customers and their individual profitability. By categorizing items into groups such as stars, plowhorses, puzzles, and dogs, managers can make data-driven decisions about which dishes to promote, which to modify, and which to remove. This process aims to maximize the overall contribution margin of the menu and improve the financial success of the operation.

39. (D) Idea generation and screening
The initial phase of new product development involves generating a wide range of creative ideas followed by a screening process to identify those with the highest potential for success. During this stage, developers consider market trends, consumer needs, and technical feasibility. Screening helps eliminate ideas that are impractical, too costly, or do not align with the company's goals. This foundational step ensures that resources are focused on the most promising concepts before moving into more intensive development.

40. (B) P-3, Q-1, R-2, S-4
Food service management involves various terms that describe service styles and control measures. An a la carte menu prices each item individually, while a table d'hôte menu offers a fixed-price meal with multiple courses. Portion control is the practice of ensuring standardized serving sizes to maintain consistency and manage costs effectively. Food cost analysis is the systematic process of calculating the expenses involved in producing each menu item, which is essential for setting appropriate prices and maintaining profitability.

41. (C) To protect sensitive ingredients and control their release.
Nanoencapsulation is an advanced food technology technique used to trap bioactive compounds, flavors, or nutrients within extremely small capsules. This process protects these sensitive ingredients from degradation caused by heat, light, or oxygen during processing and storage. Furthermore, it allows for the controlled release of the encapsulated substances at specific stages, such as in the mouth or digestive tract, enhancing their effectiveness and ensuring that the sensory and nutritional qualities of the food are maintained or improved.

42. (A) Incorporating silver nanoparticles for their antimicrobial properties.
The application of nanotechnology in food packaging often involves the use of nanomaterials to provide enhanced functionality, such as improved barrier properties or antimicrobial activity. Silver nanoparticles are frequently incorporated into packaging materials because they can inhibit the growth of a wide range of bacteria and fungi. This technology helps to extend the shelf life of the packaged food by reducing microbial spoilage and improving overall safety, representing a significant advancement over traditional packaging materials and methods used.

43. (D) NPD is a linear process that always follows a fixed sequence of steps without deviation.
New product development is typically a complex and iterative process rather than a strictly linear one. While there are standard stages such as idea generation and test marketing, teams often need to go back and refine formulations or re-evaluate market data based on feedback received during development. Factors like technical challenges, changing consumer preferences, and cost considerations require flexibility. Successful development depends on constant evaluation and adaptation to ensure the final product effectively meets market demands and company objectives.

44. (B) Accommodating diverse therapeutic diets and ensuring safety.
One of the most significant challenges in hospital food service management is the need to provide a wide variety of therapeutic diets tailored to the specific medical needs of patients. These diets

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must meet precise nutritional requirements while strictly adhering to food safety standards to protect vulnerable individuals. Coordinating the production of numerous specialized meals, such as low-sodium, diabetic, or renal diets, requires high levels of precision, specialized knowledge, and effective communication between the medical and dietary staff.

45. (C) 1, 2, 3, and 4 only
Food service in educational institutions must cater to a large and diverse student population with specific needs. Key characteristics include an emphasis on speed during peak meal times, the use of cyclic menus to provide variety and manage costs, and the requirement to follow nutritional guidelines, such as those for government-mandated meal programs. While menus must appeal to students, the focus is generally on providing wholesome and balanced meals rather than five-star gourmet cuisine, ensuring that students' nutritional needs are met efficiently.

46. (B) Low protein, controlled sodium and potassium diet
Patients with kidney disease often require a highly specialized diet to manage their condition and reduce the workload on the kidneys. This typically involves a controlled intake of protein to minimize the buildup of nitrogenous wastes in the blood. Additionally, the levels of sodium and potassium must be strictly monitored to maintain proper fluid balance and prevent complications. Managing these dietary restrictions is a critical task for hospital food service operations to ensure patient safety and support medical treatment.

47. (A) Nutrient density, appropriate portion sizes, and food safety.
When planning menus for a daycare center, the primary focus must be on meeting the unique nutritional needs of growing preschool children. This involves providing nutrient-dense foods that support healthy development while ensuring that portion sizes are age-appropriate to prevent overeating or waste. Furthermore, maintaining the highest standards of food safety is crucial, as young children are more susceptible to foodborne illnesses. These priorities ensure that the children receive the necessary nourishment in a safe and supportive environment.

48. (B) The boundaries and parameters of the study being conducted.
The scope of research defines the specific limits and boundaries within which a study is conducted. It outlines exactly what will be covered, such as the target population, the geographical area, the time period, and the specific variables being investigated. Establishing a clear scope is essential because it helps the researcher focus their efforts and allows others to understand the context and limitations of the findings. It prevents the study from becoming too broad or unmanageable during the investigation.

49. (C) Ensuring participants provide informed consent.
Informed consent is a cornerstone of ethical research involving human subjects. It requires that participants are fully informed about the nature, purpose, procedures, risks, and benefits of the study before they agree to take part. Participants must also understand that their involvement is completely voluntary and that they can withdraw at any time without penalty. This principle ensures that the rights, dignity, and autonomy of the individuals are respected and protected throughout the entire duration of the research process.

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50. (A) 2, 4, 1, 3, 5
The research process follows a logical sequence of steps to ensure a systematic investigation. It begins with the formulation of a clear research problem, followed by a thorough review of existing literature to understand the current state of knowledge. Once the foundation is laid, the researcher proceeds to data collection and subsequent analysis and interpretation of the findings. The final stage is the preparation of a research report, which documents the entire process and communicates the results to others.

51. (D) The contribution the study makes to existing knowledge.
The relevance of a research study refers to its importance and the value it adds to its specific field of study or to society in general. A relevant study addresses a significant gap in existing knowledge, solves a practical problem, or provides new insights into a particular phenomenon. Evaluating relevance helps researchers and funding agencies determine if a project is worth

the investment of time and resources. It ensures that the research outcomes have a meaningful impact beyond the study.

52. (B) Using another's work without giving appropriate credit.
Plagiarism is a serious ethical violation in research and academia, defined as the act of presenting someone else's ideas, words, or results as one's own without proper acknowledgment. This includes copying text verbatim, paraphrasing without citation, or using original concepts without giving credit to the source. Maintaining academic integrity requires researchers to be transparent about the origins of their information, ensuring that all contributors are recognized and that the research process remains honest, fair, and credible for everyone.

53. (D) Neither I nor II is correct.
Fundamental and applied research serve different primary purposes in the scientific community. Fundamental research, also known as basic research, aims to expand the general base of scientific knowledge and understand underlying principles without immediate practical application. Applied research, conversely, is specifically designed to solve practical problems or address immediate needs in society or industry. The definitions in the statements were reversed, as each type of research plays a unique and essential role in the advancement of science and technology.

54. (D) The moral principles and standards that guide research activities.
Research ethics refers to the set of moral principles and professional standards that govern how research is designed, conducted, and reported. These ethics are intended to protect the rights and welfare of research participants, ensure the integrity of the scientific process, and maintain public trust in research findings. Ethical considerations include obtaining informed consent, maintaining confidentiality, avoiding conflicts of interest, and ensuring honesty in data reporting. Adhering to these standards is mandatory for all researchers to ensure credible results.

55. (D) 1, 2, 3, and 4
Ethical conduct in research involves addressing several critical areas to ensure the protection of participants and the integrity of the findings. Key concerns include obtaining informed consent, protecting the confidentiality of participant data, and avoiding academic dishonesty such as plagiarism or the falsification of data. Each of these elements is essential for maintaining a high standard of professional conduct. Failure to adhere to these ethical principles can lead to harm to individuals and damage the reputation of the scientific community.

56. (B) Amino acids and reducing sugars
The Maillard reaction is a vital chemical process in food science responsible for the development of brown colors and savory flavors during cooking. It occurs when the carbonyl group of a reducing sugar reacts with the amino group of an amino acid, typically under the influence of heat. This reaction is central to the formation of the crust on bread, the searing of meat, and the roasting of coffee beans, creating a complex array of aromatic and flavorful compounds.

57. (A) Honey
Viscosity is a physical property that describes a fluid's internal resistance to flow. Among common food items, honey exhibits significantly higher viscosity than water, milk, or apple juice because of its high sugar concentration and low water content. The dense molecular structure of honey creates more friction between its layers as it moves, resulting in a slower flow. Understanding viscosity is essential for food processing tasks such as pumping, filling, and ensuring the desired texture in various liquid products.

58. (C) Using a texture analyzer to measure fracturing force.
Objective evaluation of food texture involves the use of specialized instruments to provide measurable and reproducible data that is free from human bias. Using a texture analyzer to quantify the specific force required to break or fracture a cracker is an example of such a method. This approach allows food scientists to precisely monitor product consistency across different batches. While sensory panels provide valuable information about consumer perception, instrumental measurements provide

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the technical data needed for rigorous quality control.

59. (A) Ultra-High Temperature (UHT) processing
Ultra-High Temperature (UHT) processing is a sterilization method that involves heating milk to a very high temperature, typically around 138°C, for a extremely short duration of two to four seconds. This process is designed to destroy all microorganisms, including resistant bacterial spores, making the product commercially sterile. When combined with aseptic packaging, UHT-treated milk can be stored at room temperature for several months without spoilage, providing significant advantages for distribution and storage compared to traditional pasteurized milk products.

60. (A) Both A and R are true and R is the correct explanation of A.
Blanching vegetables before freezing is a critical step in preserving their quality over time. The short application of heat effectively destroys endogenous enzymes like lipoxygenase and peroxidase, which would otherwise continue to act during storage, leading to undesirable changes in flavor, color, and nutritional content. By inactivating these enzymes, blanching ensures that the vegetables maintain their fresh-like characteristics throughout their shelf life. This makes it an essential preliminary treatment for many industrial and domestic food preservation processes.

61. (D) Xanthan gum
Xanthan gum is a widely used food additive that functions primarily as a stabilizer, thickener, and emulsifier. It is produced through the fermentation of glucose or sucrose by specific bacteria and is valued for its ability to increase the viscosity of liquids even at low concentrations. In products like sauces, dressings, and gluten-free baked goods, xanthan gum helps maintain a uniform texture, prevents ingredients from separating, and provides a desirable mouthfeel, ensuring the product remains stable and appealing.

62. (B) A step essential to eliminate a food safety hazard.
In the context of a HACCP plan, a Critical Control Point (CCP) is a specific step in the food production process where control can be applied to prevent, eliminate, or reduce a food safety hazard to an acceptable level. Identifying CCPs is a fundamental principle of HACCP, as it allows manufacturers to focus their resources on the most critical stages of the process. Examples include specific heat treatment temperatures, cooling times, or metal detection steps, all vital for ensuring safety.

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63. (C) Reduce respiration and growth by altering gas composition.
Modified Atmosphere Packaging (MAP) involves replacing the air inside a food package with a specific mixture of gases, typically nitrogen, carbon dioxide, and oxygen. For fresh salads, this technique aims to slow down the natural respiration rate of the leaves and inhibit the growth of aerobic spoilage microorganisms. By creating an environment that delays physiological aging and microbial proliferation, MAP significantly extends the shelf life and maintains the freshness, color, and texture of the product for consumers.

64. (D) The menu is the primary determinant of all operational costs.
Menu planning plays a foundational role in controlling the costs of a food service operation. The items selected for the menu directly influence the types and quantities of ingredients that must be purchased, the specialized equipment required for cooking, and the number and skill level of the staff needed for preparation and service. Because every operational expense is ultimately tied back to the menu, careful and strategic menu planning is the most effective tool for managing budget and ensuring profitability.

65. (B) P-3, Q-4, R-1, S-2
Pigments are responsible for the natural colors of many foods. Anthocyanins provide the red and purple hues in vegetables like red cabbage. Chlorophyll is the green pigment essential for photosynthesis in leafy greens like spinach. Carotenoids are responsible for the vibrant orange and yellow colors in carrots and other fruits. Myoglobin is the primary pigment in muscle tissue that gives red meat its characteristic color. Understanding these pigments is important for managing color changes during food processing and cooking.

66. (B) A cross-sectional study
A cross-sectional study is a type of observational research design that involves collecting data from a specific population at a single point in time. This approach allows researchers to capture a "snapshot" of the population, providing information about the prevalence of certain characteristics or behaviors within the group. While it cannot determine cause-and-effect relationships over time, cross-sectional studies are highly efficient for identifying patterns and generating hypotheses for further investigation, making them common in public health research.

67. (D) Establish maximum profitability targets.
The HACCP system is strictly a food safety management framework based on seven core scientific principles. These principles include conducting hazard analyses, determining critical control points, establishing critical limits, and setting up procedures for monitoring, corrective actions, verification, and documentation. While effective food safety management can indirectly benefit a business's reputation and success, the primary objective of HACCP is the prevention of foodborne illness and the protection of consumer health, rather than setting financial or profitability targets.

68. (A) To provide balanced and safe meals within a strict budget.
Managing food service in social institutions, such as orphanages or old age homes, focuses on meeting the nutritional needs of residents while operating within limited financial resources. The primary goal is to ensure that everyone receives wholesome, safe, and nutritionally balanced meals every day. This requires careful menu planning, efficient purchasing, and a focus on cost-effective ingredients. In these settings, the mission of providing care and sustenance far outweighs the motive for profit, emphasizing the social responsibility of the operation.

69. (C) An early sample or model of the product built to test a concept or process.
In the process of food product development, a prototype is an initial version of the product created to evaluate its formulation, appearance, and overall concept. Developing a prototype allows scientists and developers to test how different ingredients interact and how the product performs during processing. This stage is crucial for identifying potential issues and making necessary refinements before proceeding to large-scale production or consumer testing. It serves as a tangible model for validating the original product idea and design.

70. (A) 1, 2, and 5 only
Managing a diet for a patient with celiac disease requires strict adherence to gluten-free principles. This involves eliminating all sources of wheat, barley, and rye from the diet and being vigilant about hidden gluten in processed ingredients through careful label verification. Furthermore, preventing cross-contamination in the kitchen is essential, as even trace amounts of gluten can cause significant health issues. Planning must prioritize safe, alternative grains while avoiding any high-fiber foods that contain prohibited wheat products to ensure safety.

71. (D) Saccharolytic (fermentative)
A sour taste in milk is a classic indicator of fermentative or saccharolytic spoilage, primarily caused by the action of lactic acid bacteria. These microorganisms metabolize the lactose, which is the natural sugar found in milk, and produce lactic acid as a byproduct. The resulting increase in acidity leads to the characteristic sour flavor and can eventually cause the milk proteins to coagulate or curdle. This process is a common type of microbial degradation that limits the freshness of dairy products.

72. (B) It turns olive-drab brown (pheophytin).
When vegetables containing chlorophyll are cooked in an acidic medium, a chemical change occurs where the magnesium ion in the center of the chlorophyll molecule is replaced by hydrogen ions. This transformation results in the formation of pheophytin, which possesses a dull, olive-drab brown color. To maintain the bright green color of vegetables, they are often cooked quickly in boiling water or without a lid to allow natural plant acids to escape, thereby preventing the conversion to pheophytin during preparation.

73. (C) Canned peas
Fermentation is a preservation method that utilizes the metabolic activity of beneficial microorganisms to produce acids or alcohol, which inhibit the growth of spoilage bacteria.

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Yogurt, sauerkraut, and kimchi are all classic examples of fermented foods. In contrast, canning peas is a thermal preservation method that relies on high heat to destroy all microorganisms and bacterial spores within a sealed environment. While both methods extend shelf life, they operate on entirely different scientific principles to achieve food safety and stability for consumers.

74. (D) Standards relate to safety; grades classify quality levels.
In the food industry, standards and grades serve distinct regulatory and commercial purposes. Food standards are typically mandatory requirements established by government agencies to ensure that products are safe for consumption and accurately labeled. They define minimum safety and identity criteria. Food grades, however, are often voluntary systems used to classify products into different quality levels based on attributes like appearance, size, or maturity. While standards protect public health, grades facilitate trade by helping buyers and sellers communicate about product quality levels.

75. (A) Consistency in quality, portion size, and cost per serving.
A standardized recipe is a vital tool in food service management because it provides detailed, tested instructions for preparing a specific dish. By specifying exact ingredients, quantities, and preparation methods, it ensures that every serving is consistent in quality and taste, regardless of who is cooking. Furthermore, it allows for the precise calculation of portion sizes and the cost per serving, which is essential for accurate menu pricing and effective financial control within the food service operation.

76. (B) Detecting spoilage and signaling the food's condition.
Nanosensors represent an innovative application of nanotechnology in smart food packaging. These extremely small sensors can be integrated into packaging materials to monitor the environment inside the package or the condition of the food itself. For example, they can detect the presence of specific gases produced by spoilage bacteria or changes in temperature. By providing a visible signal to consumers or retailers about the freshness and safety of the product, nanosensors help reduce waste and prevent foodborne illnesses.

77. (A) Serving a large number of people quickly with wholesome, affordable meals.
Industrial canteens operate in settings where a large number of employees need to be served in a relatively short period, often during limited break times. The primary management goal is to provide wholesome, nutritious, and energy-dense meals that are affordable and prepared efficiently. This requires streamlined production processes, effective portion control, and a focus on high-volume service. The focus is on meeting the daily dietary needs of the workforce rather than offering specialized therapeutic diets or elaborate fine-dining experiences.

78. (B) The gap in knowledge or practical problem that the research aims to address.
The concept of "research need" identifies the underlying justification for conducting a scientific study. It refers to a specific area where information is missing, where existing theories are insufficient, or where a practical problem requires a systematic investigation to find a solution. Identifying a clear research need ensures that the project will contribute meaningful and valuable information to the field. It moves the study beyond personal interest, focusing it on advancing knowledge and addressing real-world challenges effectively.

79. (C) A penetrometer measures an objective property, while a triangle test is a sensory test.
Evaluation methods in food science are categorized as either objective or subjective. Objective methods use instruments, such as a penetrometer which measures the force required to penetrate a food sample, providing quantifiable and repeatable data. Subjective methods involve human sensory perception, such as a triangle test where panelists try to identify the odd sample among three items to detect a difference. Correctly identifying these pairs is essential for selecting the appropriate tools for product testing and quality assurance.

80. (D) 1, 2, 3, and 4
Cooking processes significantly impact the nutritional and chemical characteristics of food. Boiling can lead to the loss of water-soluble

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vitamins through leaching, while high-heat methods like grilling may produce potentially harmful compounds. Microwaving often allows for better nutrient retention due to its speed and minimal water use. Additionally, frying significantly increases the energy density of food by adding fat. Understanding these various effects is crucial for making informed choices about food preparation to maximize health benefits and ensure safety.

81. (A) Monosodium glutamate - Sweetener
Food additives are used for specific technical functions, and it is important to correctly identify their roles. Monosodium glutamate (MSG) is not a sweetener; rather, it is a flavor enhancer that provides the savory taste known as umami. Other additives like lecithin function as emulsifiers to stabilize mixtures, while sodium nitrite acts as a color fixative and preservative in meats. Pectin is a common gelling agent. Misidentifying the function of an additive can lead to incorrect use in food processing.

82. (B) Hazard Analysis and Critical Control Points (HACCP)
HACCP is a systematic, science-based approach to ensuring food safety by identifying potential hazards and establishing controls to prevent them throughout the production process. Unlike traditional quality control methods that focus on inspecting the final product, HACCP is a preventive system that manages risks at every stage, from raw material handling to final distribution. This method is internationally recognized as the most effective way to protect consumers from biological, chemical, and physical foodborne hazards in the modern food supply.

83. (C) To control expenses to ensure profitability and efficiency.
The primary goal of cost analysis in food service is to systematically monitor and manage all expenses associated with food production and service. This involves calculating the precise cost of ingredients, labor, and overhead for each menu item. By understanding these costs, managers can set appropriate selling prices that ensure a reasonable profit margin while maintaining value for the customer. Effective cost analysis is essential for identifying areas of waste, optimizing resource use, and ensuring the overall financial health of the operation.

84. (D) Conduct a hazard analysis.
The first principle of the HACCP system is to conduct a comprehensive hazard analysis. This involves identifying all potential biological, chemical, and physical hazards that could occur at any stage of the food production process. By evaluating the likelihood and severity of these hazards, manufacturers can determine which risks are significant and must be addressed through the HACCP plan. This foundational step is essential for designing an effective system that prioritizes food safety and focuses resources on critical areas.

85. (A) Both A and R are true and R is the correct explanation of A.
Maintaining participant confidentiality is a fundamental ethical obligation in research. By protecting the anonymity and personal information of those who participate in a study, researchers prevent potential harm, such as social stigma or privacy breaches. This ethical practice fosters trust between the researcher and the participants, which encourages more honest and accurate responses. Ensuring that individual data cannot be linked back to the participants is essential for conducting ethical research and maintaining the integrity of the scientific process.

86. (B) Texture (firmness/tenderness)
The Kramer Shear Press is a specialized instrument used in food science to objectively measure the texture of food products, such as the firmness or tenderness of canned peas. It works by applying a shearing force to the sample and recording the resistance encountered. This provides quantifiable data on the structural integrity and mouthfeel of the food, which is essential for ensuring product consistency and quality across different batches. Such instrumental measurements help manufacturers meet the textural standards expected by consumers.

87. (C) The direct heating of sugars.
Caramelization is a type of non-enzymatic browning that occurs when sugars are heated directly to high temperatures, typically above 160°C. This process involves the dehydration and

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decomposition of sugar molecules, leading to the formation of complex flavorful compounds and dark brown pigments. Unlike the Maillard reaction, which requires amino acids, caramelization only involves carbohydrates. It is responsible for the characteristic flavor and color of caramel sauce, browned onions, and the golden crust on many baked goods and roasted vegetables.

88. (A) Only Statement I is correct.
Food science is an applied science that integrates principles from chemistry, biology, physics, and engineering to understand the nature of food and improve its quality and safety. While nutrition also involves scientific study, it is primarily a biological and health science focused on how the body utilizes nutrients, rather than being a social science. Understanding the distinction between these two fields is important, as food science focuses on the product and its transformation, whereas nutrition focuses on the human physiological response.

89. (A) Plowhorse
In the context of menu engineering, a "plowhorse" is a menu item that is highly popular with customers but has a relatively low contribution margin or profitability for the operation. These items are often staples that drive customer traffic and volume. Managers must carefully handle plowhorses, perhaps by subtly adjusting portions or ingredients to improve the margin, or by pairing them with more profitable "star" items. Understanding these classifications allows food service managers to optimize their menu for maximum financial performance.

90. (A) P-3, Q-2, R-1, S-4
Understanding research terminology is essential for designing and conducting studies. A hypothesis is a testable statement about relationships between variables, while a sample is a subset of a population selected for investigation. A variable is any characteristic that can take on different values, and research ethics are the moral principles that guide the conduct of the study. Correctly applying these concepts ensures that research is systematically planned, accurately measured, and ethically performed, leading to more credible and reliable scientific outcomes.

91. (D) Solubility in water and sensitivity to heat and oxygen.
Vitamin C, or ascorbic acid, is one of the most unstable nutrients during the cooking process. Its significant loss is primarily due to its high solubility in water, which causes it to leach into cooking liquids. Additionally, Vitamin C is extremely sensitive to heat and can be easily destroyed by oxidation when exposed to air. To minimize these losses, it is recommended to cook vegetables quickly using minimal water, such as through steaming or microwaving, and to avoid overcooking.

92. (B) All processed fruit products like juices, jams, and pickles.
The Fruit Products Order (FPO) mark is a mandatory quality certification for all processed fruit and vegetable products manufactured and sold in India. This order ensures that products like juices, jams, pickles, and squashes are produced under hygienic conditions and meet specific quality and safety standards. The FPO mark provides consumers with an assurance that the product is fit for consumption and has been processed according to established regulatory guidelines, thereby protecting public health in the food sector.

93. (C) Providing energy-dense food under challenging conditions.
Food service management for the armed forces faces unique challenges, as it must provide nutritious and energy-dense meals to personnel often working in remote or difficult environments. The primary focus is on ensuring that the troops receive adequate calories and nutrients to maintain physical performance and health under stress. This requires specialized logistics, robust preservation methods, and efficient preparation techniques. While nutritional balance is critical, the operational requirement for providing high-energy sustenance in diverse conditions takes priority over elaborate gourmet presentation.

94. (D) To advance knowledge, quality, and safety innovation.
Conducting research in food science and nutrition is fundamental to advancing our understanding of food composition, its impact on health, and the technologies used to produce it. Research drives innovation in food quality

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and safety, leading to the development of new products that meet changing consumer needs and more effective preservation methods. By systematically investigating problems and testing new ideas, researchers contribute to a safer, more sustainable, and more nutritious food supply, ultimately benefiting public health and the global food industry.

95. (B) 1, 2, 3, and 4 only
Essential components of conducting high-quality research include clearly defining the research problem, choosing an appropriate study design, and ensuring the validity and reliability of all measurements. Furthermore, adhering to ethical principles to protect participants and ensure integrity is mandatory. While publishing results is important for sharing knowledge, it should not be the sole or primary objective of the research process. A rigorous and ethical approach to all stages of the investigation is what ensures that the final findings are meaningful and credible.

96. (B) Susceptibility to oxidation
Chemical properties are characteristics of a substance that are observed during a chemical reaction, where the chemical identity of the substance is changed. Susceptibility to oxidation is a chemical property because it involves a chemical interaction between the food components, such as fats, and oxygen, leading to new compounds. In contrast, properties like texture, color, and flavor are primarily physical or sensory attributes that can be evaluated without necessarily changing the fundamental chemical makeup of the food product itself.

97. (A) Increasing sugar concentration causes an increase in the boiling point of a solution.
A cause-and-effect relationship in food science involves a change in one factor directly resulting in a change in another. For example, adding sugar to water increases the concentration of solute particles, which physically elevates the boiling point of the resulting solution. This is a predictable scientific phenomenon. Other options, such as the relationship between price and color or brand name and pH, are correlations or marketing factors rather than direct scientific cause-and-effect relationships governed by the laws of chemistry and physics.

98. (B) Determine if a sensory difference exists between two samples.
The triangle test is a common discriminative sensory evaluation method used to determine if there is a perceptible difference between two products. In this test, a panelist is presented with three samples, two of which are identical and one of which is different. The panelist must identify the odd sample. If a significant number of panelists correctly identify the different sample, it indicates that a detectable difference exists. This test is highly useful when manufacturers change ingredients or processing methods.

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99. (C) Psychrotrophs
Psychrotrophs are a group of microorganisms that have the ability to grow at low temperatures, specifically within the range of 0°C to 7°C, which includes typical refrigeration temperatures. While their optimal growth temperature is usually higher, their ability to multiply in the cold makes them significant contributors to the spoilage of refrigerated foods like milk, meat, and vegetables. Understanding psychrotrophs is crucial for managing food shelf life and ensuring that refrigeration is effective as a short-term preservation method for various products.

100. (A) 3, 5, 1, 2, 4
The implementation of the HACCP system follows a specific logical sequence of principles to ensure a systematic approach to food safety. The process begins with conducting a hazard analysis, followed by identifying the Critical Control Points (CCPs) in the production cycle. Next, critical limits are established for each CCP to define safe operating boundaries. This is followed by setting up monitoring procedures to track the process and, finally, establishing corrective actions to be taken if a deviation from the limits occurs.

101. (D) Retrogradation
Retrogradation is a process that occurs when a cooked starch paste is cooled and stored. During this time, the starch molecules, particularly amylose, begin to reassociate and form a more ordered, crystalline structure. This leads to the formation of a gel and the eventual exclusion of water from the starch network, which can result in changes in texture, such as the staling of bread or the thickening of sauces. Understanding

retrogradation is important for controlling the shelf life and quality of starch-based food products.

102. (B) Provide large-scale, balanced meals via cyclic menus.
The primary objective of food service in an institutional setting like a university hostel is to efficiently provide a large number of students with nutritionally balanced and safe meals. Because these operations often have a captive audience and must manage costs carefully, they frequently utilize cyclic menus to offer variety while simplifying purchasing and production. The focus is on meeting the daily dietary needs and preferences of the students in a cost-effective and consistent manner, rather than on generating high individual profits.

103. (C) An abstract idea forming the research problem basis.
In research methodology, a concept is an abstract idea or a generalized notion that represents a phenomenon or a group of related objects or events. Concepts serve as the building blocks of theories and are essential for defining the research problem and developing hypotheses. They allow researchers to categorize and communicate complex ideas in a structured way. For example, "food security" or "nutritional status" are concepts that must be clearly defined and operationalized before they can be measured in a study.

104. (D) Creating low-fat spreads using nano-sized fat droplets.
Nanotechnology involves the manipulation of matter at the atomic or molecular scale, often leading to new properties and applications in food product development. One example is the creation of low-fat spreads where fat droplets are reduced to nano-size. This significantly increases the surface area of the fat, providing a creamy mouthfeel and flavor perception similar to full-fat products while using much less total fat. This allows developers to create healthier food options without compromising on the sensory qualities that consumers expect.

105. (C) 1, 2, and 3 only
Effective menu planning requires a holistic approach that considers several interrelated factors. A menu should align with the mission of the food service operation and must take into account practical constraints such as the skill level of the kitchen staff and the available equipment. While food cost is a critical variable for financial sustainability, it is certainly not the only factor that matters. Balancing variety, nutrition, and operational feasibility alongside cost is essential for creating a successful and well-received menu for any facility.

106. (B) Syneresis
Syneresis is the physical phenomenon where liquid is excluded or "weeps" from a gel structure, such as in yogurt, jelly, or puddings. This occurs when the gel network contracts, squeezing out some of the entrapped water. Factors like temperature changes, acidity levels, or the length of storage time can influence the extent of syneresis. While it is sometimes desirable, such as in cheese making, it is often viewed as a quality defect in other products because it can negatively affect the appearance and texture.

107. (D) Irradiation sterilizes food without the use of heat.
Food irradiation is a preservation technique that involves exposing food to ionizing radiation, such as gamma rays or electron beams. This process can effectively destroy microorganisms, parasites, and insects without significantly increasing the temperature of the food. Therefore, it is often referred to as "cold sterilization." Irradiation helps extend shelf life and improve safety while maintaining the fresh-like qualities of many products. Other methods like canning use heat, while pickling relies on low pH, and smoking provides both flavor and preservative chemicals.

108. (A) Independent variable
In an experimental research study, the independent variable is the factor that is manipulated or changed by the researcher to observe its effect on another variable. In this scenario, the "teaching method" is the independent variable because the researcher is specifically controlling it to see how it influences student performance. The student performance, which is being measured as the outcome, is known as the dependent variable. Identifying these variables correctly is fundamental to designing a valid experiment and interpreting the results accurately.

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109. (C) Salmonella bacteria
Food hazards are generally categorized into biological, chemical, and physical types. Physical hazards are foreign objects that can cause injury or illness, such as glass fragments, metal shavings, stones, or hair. Salmonella bacteria, however, are living microorganisms that can cause foodborne infection. Therefore, they are classified as a biological hazard. Understanding these distinctions is crucial for implementing effective food safety management systems like HACCP, which aim to identify and control all types of potential hazards in the food production chain.

110. (A) Both A and R are true and R is the correct explanation of A.
A static menu is a common choice for fine-dining restaurants and cafes where the establishment wants to maintain a consistent identity and high standards for its signature dishes. Because the menu does not change frequently, the operation can streamline its purchasing and production processes. Furthermore, the staff becomes highly proficient in preparing and serving a fixed set of items, leading to better consistency in quality. This predictability allows management to focus on refining every detail of the guest's dining experience.

111. (D) Roasting
Roasting is a dry-heat cooking method that involves cooking food, usually meat or vegetables, in an oven or over an open flame using dry air. Unlike moist-heat methods like boiling, steaming, or poaching, which use water or steam to transfer heat, roasting relies on radiation and convection. Dry-heat methods are known for creating high temperatures that promote the Maillard reaction and caramelization, resulting in the development of complex flavors and a characteristic browned or crisp exterior on the food.

112. (B) Flavor
Flavor is a complex sensory perception that represents the total sensory experience of a food while it is in the mouth. It is primarily a combination of taste (sensed by the tongue), aroma (sensed by the nose), and chemesthesis (sensations like temperature or spiciness). Factors like texture and mouthfeel also contribute to the overall flavor profile. Understanding flavor is essential for food scientists and chefs as they work to create products that are balanced, appealing, and meet the sensory expectations of consumers.

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113. (A) Only Statement I is correct.
Objective evaluation of food involves the use of calibrated instruments to measure physical or chemical properties, providing data that is free from human bias and easily reproducible. However, objective methods cannot completely replace subjective evaluation, which uses human sensory panels to assess preferences and complex sensory characteristics. Even if an instrument can measure a product's firmness, it cannot determine if a consumer will actually like that level of firmness. Therefore, both methods are essential and complementary in the process of food quality assessment.

114. (D) Food safety management systems.
ISO 22000 is an internationally recognized standard that specifies the requirements for a food safety management system. It provides a framework for organizations throughout the entire food chain to demonstrate their ability to control food safety hazards and ensure that food is safe for human consumption. The standard integrates the principles of HACCP and incorporates interactive communication, system management, and prerequisite programs. Implementing ISO 22000 helps organizations improve their overall food safety performance and build trust with their customers.

115. (B) P-2, Q-3, R-4, S-1
Different types of menus are used across various food service sectors to meet specific goals. A therapeutic menu, like a low-sodium diet, is designed for medical needs in a hospital. An institutional menu, often cyclic, is used to provide variety and consistency in settings like college hostels. A social institution menu focuses on providing balanced meals within a strict budget, such as in an orphanage. A commercial menu, like an a la carte restaurant menu, focuses on individual pricing and customer choice.

116. (B) Fabrication
Fabrication is a severe form of research misconduct that involves the intentional creation or manipulation of data or results to support a desired conclusion. This unethical practice

undermines the entire foundation of scientific inquiry, as it introduces false information into the knowledge base. Fabrication can lead to incorrect conclusions, waste of resources, and even harm if the research informs public policy or medical treatment. Maintaining honesty and integrity in data collection and reporting is an absolute requirement for all credible researchers.

117. (A) Control moisture and prevent it from drying out.
Humectants are food additives used to retain moisture and prevent food products from drying out. Substances like glycerol, sorbitol, and propylene glycol are commonly used for this purpose because they have the ability to attract and hold water molecules. By maintaining the desired moisture content, humectants help preserve the soft texture and freshness of foods like baked goods, confectionery, and certain dried fruits. They also play a role in controlling water activity, which can indirectly influence the product's shelf life.

118. (B) Apple juice and clear broth
A clear liquid diet is a specialized medical diet often prescribed before or after certain surgeries or for patients with severe digestive issues. It consists of liquids that are transparent and liquid at room temperature, providing minimal residue and being very easy to digest. Apple juice and clear broth are perfect examples, as they provide hydration and some electrolytes without containing solid particles, fats, or dairy. This diet is intended for short-term use to rest the digestive system while providing basic sustenance.

119. (C) Test marketing
Test marketing is a critical stage in the development of a new food product where the item is launched in a limited, representative geographical area before a full-scale commercial rollout. This allows the company to observe real-world consumer behavior, evaluate the effectiveness of marketing strategies, and identify any unforeseen issues with the product or its packaging. The data gathered during test marketing helps management make informed decisions about whether to proceed with commercialization, make further modifications, or discontinue the product.

120. (B) 1, 2, 3, and 5 only
Nanotechnology has numerous potential applications in the food industry that aim to improve quality, safety, and functionality. These include the nanoencapsulation of sensitive flavors and vitamins to protect them, the use of nanosensors in packaging to detect spoilage, and the improvement of food texture through nano-emulsions. Additionally, creating antimicrobial surfaces for processing equipment can enhance food safety. While these applications are scientifically feasible and beneficial, making food invisible to the naked eye is not a practical or recognized goal within food technology.

121. (A) Acidity or alkalinity
The chemical property "pH" is a numerical scale used to specify the acidity or alkalinity of a substance. In food science, pH is a critical parameter because it influences many aspects of food quality, including taste, color stability, and especially the growth of microorganisms. Acidic foods have a pH below seven, while alkaline foods have a pH above seven. Controlling the pH of food products is a fundamental strategy for preservation and safety, as most pathogens cannot grow in highly acidic environments.

122. (B) To increase the nutritional value above the fresh state.
The primary objectives of food preservation are to prevent microbial spoilage, inhibit undesirable enzymatic and chemical reactions, and extend the overall shelf life of the food. While some preservation methods can help maintain the existing nutritional quality of a product, they are not typically designed to increase the nutrient content above that of the fresh, raw state. The goal is to provide a safe and stable food supply over time, ensuring that the food remains fit for consumption long after harvest or production.

123. (C) The research should maximize possible benefits and minimize possible harms to participants.
The principle of beneficence is a fundamental ethical guideline in research involving human subjects. it requires researchers to act in the best interest of the participants by maximizing the potential benefits of the study while minimizing any possible risks or harms. This involves careful study design, thorough risk assessment, and

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ensuring that the research has sufficient social or scientific value to justify the involvement of human participants. Beneficence ensures that the well-being of the individuals is a primary consideration throughout the research process.

124. (D) The ability to apply knowledge and skills to a real-world scenario or problem.
A competency-based question is designed to assess more than just the recall of facts or definitions. It focuses on the individual's ability to integrate their knowledge and skills to solve a specific problem or address a complex, real-world scenario. This type of questioning evaluates higher-order thinking skills, such as analysis, synthesis, and application. In professional and academic settings, competency-based assessments are valued because they provide a more accurate measure of an individual's readiness to perform tasks and make informed decisions.

125. (A) Homogenization
Homogenization is a mechanical process commonly applied to milk to prevent the cream from separating and rising to the top. It involves forcing the milk at high pressure through a very small nozzle, which breaks down the large fat globules into much smaller, more uniformly sized particles. These smaller droplets are then dispersed throughout the milk, creating a stable emulsion. This process ensures a consistent texture and appearance, improves the mouthfeel, and results in a product that does not require shaking before use.

126. (B) ₹200,000
Calculating the cost of food sold is a basic financial task in food service management. Given a food cost percentage of 40% and total revenue of ₹500,000, the cost of food sold is determined by multiplying the revenue by the percentage (500,000 x 0.40). This results in a cost of ₹200,000. Understanding this figure is essential for managers to track their expenses, evaluate the profitability of their menu, and ensure that the operation is meeting its overall financial targets efficiently.

127. (C) Listeria monocytogenes
A biological hazard in food refers to a living organism, such as a bacterium, virus, or parasite, that can cause illness when consumed. Listeria monocytogenes is a significant foodborne pathogen that can thrive in various environments, including refrigerated conditions, making it a serious concern for food safety. In contrast, pesticide residues and cleaning chemicals are chemical hazards, and a piece of plastic is a physical hazard. Identifying the type of hazard is the first step in implementing appropriate control measures for food safety.

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128. (D) Carotenoid - Fat-soluble pigment
Correctly identifying the characteristics of food pigments is important in food science. Carotenoids are a group of pigments responsible for yellow, orange, and red colors in many plants and are notably fat-soluble. Other pigments like anthocyanins are highly sensitive to pH changes, and chlorophyll is the primary green pigment, while myoglobin is a protein-based pigment found in animal muscle tissue. Understanding these properties helps food scientists manage color changes during processing and ensure the visual appeal and quality of various food products.

129. (A) Institutional food service has a captive audience and its primary motive is often not profit.
A primary distinction between institutional and commercial food service lies in their audience and their underlying objectives. Institutional operations, such as those in schools, hospitals, and prisons, typically serve a "captive" audience that has few other dining options, and their main goal is usually to provide necessary nutrition efficiently. Commercial food service, like restaurants and cafes, must compete for customers in an open market, making profit and customer satisfaction their primary drivers. These differences influence menu planning and management strategies significantly.

130. (B) 1, 2, and 3 only
Food packaging serves several vital and interrelated functions. It contains the product for easy handling, protects it from physical damage and environmental factors like light and moisture, and provides a surface for important communication, such as nutritional labeling and marketing information. While packaging is essential for maintaining the quality and safety of

the food, it is not intended to fundamentally alter the nutritional composition of the food itself. Its role is to preserve the product in its intended state until it reaches the consumer.

131. (C) A systematic investigation to reach new conclusions.
Research is defined as a systematic and organized process of inquiry aimed at discovering new information, verifying existing knowledge, and reaching new conclusions. It involves identifying a problem, gathering data through rigorous methods, and analyzing the results objectively. Unlike a casual search for information, formal research follows a structured methodology to ensure that the findings are reliable and valid. This systematic approach is essential for advancing knowledge in any field, including the complex areas of food science and nutrition.

132. (D) Irradiation
Food irradiation is a preservation method that involves exposing food products to ionizing radiation, such as gamma rays or X-rays. This process effectively kills microorganisms, insects, and parasites that can cause spoilage or foodborne illness. It can also be used to delay ripening and sprout inhibition in certain fruits and vegetables. Because it does not use heat, it is often called "cold pasteurization" and can preserve the texture and nutritional quality of many foods. It is a scientifically validated method for improving food safety.

133. (A) To provide a baseline to evaluate the treatment effect.
In an experimental research study, a control group is essential because it provides a standard of comparison. This group is kept under the same conditions as the experimental group but does not receive the specific treatment or intervention being tested. By comparing the results of the two groups, researchers can determine if any observed effects are truly caused by the treatment rather than by other external factors. This increases the validity and reliability of the study's conclusions about cause-and-effect relationships.

134. (B) Fermentation
Fermentation is a historical and scientifically significant food preservation method that relies on the activity of beneficial microorganisms, such as lactic acid bacteria or yeast. During the process, these microbes convert carbohydrates into acids or alcohol under anaerobic (oxygen-free) conditions. The resulting decrease in pH creates an environment that is hostile to most spoilage and pathogenic bacteria, thereby extending the shelf life of the food. Common fermented products include yogurt, pickles, and sauerkraut, all of which benefit from this natural preservative process.

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135. (C) A is true but R is false.
The texture of food is indeed a critical physical property that significantly influences consumer acceptance and sensory experience. However, texture is not determined solely by the water content of the food. It is the result of complex interactions between various components, including proteins, carbohydrates (like starch and fiber), fats, and the overall structural arrangement of these molecules. Factors like processing methods, temperature, and pH also play significant roles in defining the final textural characteristics of a given food product.

136. (B) Paired comparison test
A paired comparison test is a straightforward sensory evaluation method where a panelist is presented with two samples and asked to identify which one possesses a greater intensity of a specific attribute, such as sweetness or crispiness. This test is used when the researcher wants to focus on a particular sensory dimension. It is a highly sensitive method for detecting small differences between products and is commonly used in product development to compare a new formulation with an existing standard or a competitor's product.

137. (A) All food processing techniques invariably reduce the nutritional quality of food.
While it is a common misconception that all food processing reduces nutritional quality, the reality is more nuanced. Some techniques, like milling, can indeed remove beneficial fiber and vitamins. However, other processes can actually improve the safety and nutritional profile of food. For example, cooking can destroy harmful toxins and pathogens, while also making certain nutrients, like the lycopene in tomatoes or the starch in grains, more digestible and bioavailable

for the human body. Processing can also allow for beneficial fortification.

138. (B) Fortification
Fortification is the process of adding essential micronutrients, such as vitamins and minerals, to food products to improve their nutritional quality and address public health needs. Adding Vitamin D to milk is a classic example of fortification aimed at improving bone health across a population. This practice is different from enrichment, which involves replacing nutrients lost during processing. Fortification is an effective and cost-efficient strategy for reducing nutrient deficiencies and supporting the overall health and wellness of consumers on a large scale.

139. (C) The names and personal details of other participants.
Informed consent is a critical ethical requirement that ensures research participants are fully aware of what their involvement entails. It must include a clear description of the procedures, potential risks, benefits, and a statement that participation is voluntary. However, to protect privacy and maintain confidentiality, the names and personal details of other participants should never be shared. Respecting the anonymity of each individual is a fundamental principle of ethical research conduct and is essential for maintaining the trust and safety of participants.

140. (C) P-3, Q-2, R-1, S-4
Understanding the specific risks associated with different microorganisms is fundamental to food safety. Salmonella is a common cause of infection often linked to poultry and eggs. Clostridium botulinum is notorious for producing a deadly neurotoxin in anaerobic environments like improper canning. Staphylococcus aureus can produce heat-stable toxins that cause rapid-onset food poisoning. Aspergillus flavus is a mold that can produce aflatoxins, which are hazardous contaminants in grains and nuts. Identifying these links helps in developing targeted control measures in food production.

141. (A) Freezing or canning
Blanching is a mild heat treatment, usually involving hot water or steam, that is traditionally applied to vegetables as a preliminary step before freezing or canning. Its primary function is to inactivate the enzymes that would otherwise cause undesirable changes in color, flavor, and texture during long-term storage. Additionally, blanching helps to clean the surface of the food, soften the tissues for better packing, and expel trapped air, which is particularly beneficial for maintaining the quality and safety of canned and frozen products.

142. (B) A selection of courses for a single, fixed price.
A table d'hôte menu is a specific type of menu that offers a complete multi-course meal for a set, fixed price. Customers usually have a limited number of choices within each course. This style of menu is often used for special events, banquets, or in certain traditional dining establishments. From an operational perspective, a table d'hôte menu allows the kitchen to prepare a smaller variety of items in larger quantities, which can improve efficiency and make the management of food costs more predictable.

143. (C) Rancidity
Rancidity refers to the development of off-flavors and unpleasant odors in food products that contain fats and oils. This occurs due to the chemical breakdown of lipids through either oxidation, caused by exposure to air and light, or hydrolysis, often triggered by enzymes or moisture. Rancidity not only negatively affects the sensory quality of the food but can also lead to the loss of fat-soluble vitamins and the formation of potentially harmful compounds. Proper storage and the use of antioxidants are key strategies to prevent it.

144. (D) Ensuring a balanced menu meeting child nutritional needs.
Food service management in a boarding school carries a significant responsibility to provide students with a consistent supply of healthy and balanced meals. Because students consume almost all of their meals at the school, the menu must be carefully planned to meet their specific nutritional requirements for growth and academic performance. This involves incorporating a variety of food groups, ensuring food safety, and considering the preferences of children and adolescents. A well-designed menu supports the overall well-being and development of the students.

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145. (B) 1, 2, and 4 only
Credible research is built on the foundation of empirical evidence and operates within a clearly defined scope that outlines its boundaries. Furthermore, the relevance of a study is judged by its potential to contribute to existing knowledge or practical solutions. While ethical considerations are mandatory for every researcher regardless of experience, and not all studies will result in groundbreaking discoveries, following these systematic principles ensures that the research process remains rigorous, meaningful, and capable of advancing the field in a reliable way.

146. (B) Physical
A piece of metal found in a food product is a classic example of a physical hazard. Physical hazards are foreign objects that are not naturally part of the food and can cause injury or distress to the consumer, such as dental damage, choking, or lacerations. These hazards can enter the food supply at any stage of production, processing, or distribution. Effective quality control measures, including the use of metal detectors and rigorous inspection protocols, are essential for identifying and eliminating these risks before the product reaches the consumer.

147. (C) Both Statement I and Statement II are correct.
Browning reactions in food are categorized into enzymatic and non-enzymatic types. The Maillard reaction is a non-enzymatic process requiring heat and the presence of both amino acids and reducing sugars. It is responsible for the savory flavors and brown colors in many cooked foods. Caramelization is another non-enzymatic reaction that involves only the thermal decomposition of sugars at high temperatures. Both reactions are essential for creating the desirable sensory characteristics found in a wide range of baked, roasted, and seared food products.

148. (B) A viscometer
Consistency and flow behavior are critical quality attributes for products like tomato ketchup. To measure these properties accurately and objectively, a food scientist would use a viscometer. This instrument quantifies the internal resistance of the fluid to flow, providing precise data that helps ensure product consistency across different batches. Maintaining the correct viscosity is essential for meeting consumer expectations regarding how the product pours and adheres to food, and it is a key parameter in the manufacturing and quality control processes.

149. (C) Meet a perceived consumer need or market opportunity.
The primary driver for developing a new food product is the identification of a specific market opportunity or an unmet consumer need. Companies aim to create products that solve a problem, offer more convenience, provide health benefits, or align with emerging food trends. While factors like technical innovation and resource utilization are important, the ultimate goal of the New Product Development process is to create a product that consumers will actually buy and enjoy, thereby ensuring the commercial success and growth of the business.

150. (A) 2, 4, 3, 5, 1
The new product development process typically follows a strategic sequence of stages. It begins with idea generation, followed by a business analysis to evaluate the potential profitability and market fit of the most promising concepts. Next, a prototype is developed and refined in the lab or pilot plant. This is followed by test marketing in a limited area to gauge consumer response. If successful, the final stage is commercialization, where the product is produced on a large scale and launched into the wider market.

151. (C) Using exclusively the most expensive ingredients available
Effective menu planning is a balance of several principles, including providing variety in sensory attributes, ensuring nutritional balance, and working within the operational capabilities of the kitchen. While using high-quality ingredients is important, a primary focus on using only the most expensive items is not a recognized principle and can lead to financial instability. Successful menus prioritize value, customer preferences, and sustainability, ensuring that the operation remains profitable while consistently meeting the needs and expectations of its target audience.

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152. (D) To define steps taken when a critical limit is breached.
In a HACCP system, establishing corrective actions is a mandatory principle designed to address deviations from the critical limits. If a monitoring

procedure indicates that a specific critical control point is no longer under control, the pre-defined corrective actions must be followed. These steps typically involve identifying and correcting the cause of the problem, determining the safety of the affected product, and documenting the entire process. This ensures that potentially unsafe food does not reach the consumer and that the process is quickly restored.

153. (A) Rheology
Rheology is the branch of physics and food science that focuses on the study of how matter deforms and flows when subjected to force. This field is particularly relevant for understanding the textural properties of liquid, semi-solid, and soft food products. By measuring rheological characteristics like viscosity and elasticity, food scientists can predict how a product will behave during processing, how it will feel in the mouth, and how it will perform in various culinary applications. This data is vital for ensuring consistency and quality.

154. (B) The delimitations and boundaries of the research plan.
The scope of research refers to the specific boundaries and parameters established for a study. It clearly outlines what the research will cover and, importantly, what it will not. This includes defining the target population, the geographical focus, the timeframe, and the specific variables or questions to be investigated. Establishing a clear scope is essential for maintaining the focus of the study, managing resources effectively, and allowing others to understand the specific context and limitations of the findings and conclusions reached.

155. (C) 1, 2, and 3 only
Sorbic acid, sodium benzoate, and antioxidants like BHA and BHT are primarily used in the food industry as preservatives to extend shelf life. Sorbic acid and sodium benzoate inhibit the growth of bacteria and fungi, while BHA and BHT prevent the oxidation of fats and oils. Monosodium glutamate, however, is used as a flavor enhancer and does not possess preservative properties. Understanding the specific function of each additive is crucial for their correct application in food manufacturing and for ensuring both safety and quality.

156. (B) Greater emphasis on satisfaction, ambiance, and profit.
While both hospital and high-end restaurant food services must prioritize safety, they have different primary management challenges. In a commercial restaurant, the manager must focus heavily on creating a unique dining experience, including ambiance and high-quality service, to attract and satisfy customers in a competitive market. Generating a profit is a critical goal. In contrast, hospital food service is driven by clinical needs and therapeutic requirements, serving a captive audience where the focus is on supporting patient recovery rather than marketing and atmosphere.

157. (A) Conducting a consumer preference test
Subjective evaluation of food relies on human sensory perception and personal judgment to assess product quality and acceptance. Conducting a consumer preference test is a classic example, as it captures the subjective likes and dislikes of individuals. In contrast, methods using pH meters, texture analyzers, or water activity meters are objective because they rely on calibrated instruments to provide measurable and reproducible data that is free from personal bias. Both types of evaluation are essential for a complete understanding of a food product's performance.

158. (B) Using high heat for destruction followed by sealing.
The preservation of food through canning is based on the application of high heat to destroy all spoilage-causing and pathogenic microorganisms, including highly resistant bacterial spores. Once the food is processed at the required temperature and time, it is sealed in an airtight (hermetic) container to prevent any new microorganisms from re-contaminating the product. This combination of thermal destruction and a protective seal allows canned foods to be stored safely at room temperature for extended periods, providing a stable and convenient food supply.

159. (C) Applied research
Applied research is specifically designed to solve practical, immediate problems or to address specific questions faced by society, industry, or an organization. Its primary goal is the practical

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application of scientific findings to improve conditions or find effective solutions. This differs from fundamental research, which aims to expand the general base of knowledge without an immediate practical use in mind. In the fields of food science and nutrition, applied research is essential for developing new technologies, improving safety, and addressing specific health challenges.

160. (A) Both A and R are true and R is the correct explanation of A.
Nanotechnology is recognized as a transformative technology in the food sector, particularly in the area of food packaging. By using nanomaterials, scientists can create packaging with significantly improved barrier properties against moisture and oxygen. Additionally, nanotechnology allows for the incorporation of antimicrobial agents and sensors that can detect and signal the presence of spoilage. These advancements enhance the safety and shelf life of food products, providing significant benefits for both manufacturers and consumers while also potentially reducing food waste globally.

161. (A) Color - Solely a Chemical Property
In food science, properties are categorized based on whether their observation changes the substance's chemical identity. Texture and water activity are correctly identified as physical properties. pH is a chemical property because it involves hydrogen ion concentration. Color, however, is primarily a physical or optical property related to how light interacts with a surface, although it is often influenced by chemical pigments. Labeling color as "solely" a chemical property is incorrect, as its measurement and perception are fundamental aspects of physical and sensory science.

162. (B) Establish record-keeping and documentation procedures.
The seventh and final principle of the HACCP system is to establish comprehensive record-keeping and documentation procedures. Maintaining detailed records is essential for demonstrating that the HACCP plan is being followed correctly and that the food being produced is safe. These records should include the hazard analysis, the identified CCPs, critical limits, monitoring results, and any corrective actions taken. Effective documentation is not only a regulatory requirement but also a vital tool for verification, auditing, and continuous improvement of the food safety management system.

163. (C) Understand existing knowledge and identify research gaps.
A literature review is a foundational step in any research project, as it involves a systematic examination of previously published work on the topic. The primary purpose is to gain a deep understanding of the current state of knowledge, identify the theories and methods that have been used, and, most importantly, pinpoint specific gaps where more research is needed. This allows the researcher to build upon existing work, avoid unnecessary duplication, and justify the significance and focus of their own study within the field.

164. (D) Monitor and control menu item costs relative to their selling price.
Calculating the food cost percentage is a vital management task in food service that helps evaluate the relationship between the expense of ingredients and the revenue generated. By monitoring this percentage, managers can ensure that their menu items are priced correctly to maintain profitability. It also serves as a tool for identifying areas where costs might be too high due to waste, poor purchasing, or inconsistent portion control. This financial analysis is essential for maintaining the overall economic health and sustainability of any food service operation.

165. (A) P-3, Q-2, R-1, S-4
Food science and management encompass several distinct but related fields of study. Food science is the study of the physical and chemical makeup of food, while preservation is the science of preventing spoilage. New product development is the specific process of creating and launching novel food items to meet market demands. Food service management involves the complex tasks of planning and organizing food preparation and service within an institutional or commercial setting. Understanding these core concepts is essential for a career in the food industry.

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166. (B) Heat causes denaturation, which can alter the protein's structure and often improves its digestibility.
When proteins are exposed to heat during cooking, they undergo a process called denaturation, where their complex three-dimensional structure unfolds. This change often makes the protein molecules more accessible to digestive enzymes in the human body, thereby improving their overall digestibility and bioavailability. While excessive heat can occasionally lead to the loss of some amino acids, the moderate heat used in typical cooking generally enhances the nutritional value of protein-rich foods like eggs, meat, and legumes by making them easier for the body to utilize.

167. (C) Aspartame
Aspartame is a common example of a non-nutritive, high-intensity sweetener used in the food industry as a substitute for sugar. It is significantly sweeter than sucrose, allowing it to be used in very small amounts to provide sweetness without adding significant calories. This makes it a popular choice for "diet" and "sugar-free" products. In contrast, sucrose, corn syrup, and dextrose are nutritive sweeteners that provide energy in the form of calories. High-intensity sweeteners play a key role in developing products for calorie-conscious consumers.

168. (D) High-carbohydrate, adequate-protein meals for energy and muscle repair.
Planning a diet for athletes in a sports institution focuses on meeting the high energy demands and recovery needs associated with intense physical activity. This requires a menu rich in complex carbohydrates to provide a consistent source of fuel for muscles. Additionally, providing adequate high-quality protein is essential for muscle tissue repair and growth. The timing of meals and proper hydration are also critical considerations. The goal is to optimize physical performance, support health, and ensure that the athletes' nutritional needs are met throughout their training and competition cycles.

169. (A) An antioxidant like BHT or Vitamin E.
Rancidity in fat-containing foods like potato chips is primarily caused by lipid oxidation, which occurs when fats react with oxygen to produce off-flavors and odors. To solve this problem, food scientists typically add antioxidants, such as BHT or Vitamin E, to the product's seasoning or packaging. Antioxidants work by neutralizing free radicals and interrupting the oxidation process, thereby maintaining the freshness and extending the shelf life of the chips. This intervention is crucial for ensuring product quality and consumer satisfaction in lipid-rich snack foods.

170. (B) 1, 2, 3, and 4 only
Ethical research is guided by several core principles intended to protect participants and ensure the integrity of the findings. These include obtaining informed consent, maintaining the confidentiality and anonymity of data, and avoiding any harm to the individuals involved. Furthermore, honesty and transparency in reporting all results, even those that do not support the hypothesis, are absolute requirements. Ignoring negative data is a form of scientific misconduct. Adhering to these ethical standards is essential for maintaining public trust and the overall credibility of the scientific research process.

171. (C) 5°C and 60°C (41°F and 140°F)
The temperature "danger zone" for food is the range between 5°C and 60°C, where conditions are optimal for the rapid growth and multiplication of many foodborne pathogens. Within this temperature range, bacteria can double in number every twenty minutes, significantly increasing the risk of causing foodborne illness. To ensure food safety, it is critical to keep cold foods below 5°C and hot foods above 60°C. Minimizing the time that perishable foods spend in the danger zone is a fundamental practice in both professional and domestic food handling.

172. (D) The level of liking or preference for a product.
A hedonic scale is a popular sensory evaluation tool used to measure the degree of liking or preference for a food product. It typically consists of a series of categories ranging from "dislike extremely" to "like extremely," often using a nine-point scale. This method allows researchers to gather quantitative data on consumer satisfaction and overall acceptance. Hedonic testing is widely used in product development and market research to compare different formulations and determine

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which version is most likely to be successful with the target audience.

173. (A) Lowering water activity below the level required for microbial growth preserves food.
Water activity (aw) is a measure of the moisture available for microbial growth and chemical reactions within a food product. There is a direct cause-and-effect relationship between water activity and food preservation: by lowering the aw below the specific thresholds required by pathogens and spoilage organisms, their growth is effectively inhibited. Most bacteria require an aw above 0.90 to thrive. Preservation methods like drying, salting, and adding sugar all work by reducing water activity, thereby extending the product's shelf life and ensuring its safety.

174. (B) To develop new, more efficient service systems and cost-control methods.
Research in food service management plays a vital role in improving the operational efficiency and financial sustainability of food service establishments. It involves systematically investigating new service models, more effective labor-management strategies, and innovative cost-control methods. By applying scientific research principles, managers can identify ways to reduce waste, optimize resource use, and enhance overall customer satisfaction. This ongoing process of inquiry and improvement is essential for the success of any modern food service operation in an increasingly complex and competitive global market.

175. (C) Anthocyanins
Anthocyanins are a group of water-soluble pigments responsible for the red, purple, and blue colors found in many fruits and vegetables, including red cabbage. These pigments are highly sensitive to changes in pH. When lemon juice, which is acidic, is added to red cabbage, the anthocyanins shift towards a more vibrant red or pink color. Conversely, in alkaline conditions, they may turn blue or green. Understanding this pH sensitivity is important for chefs and food scientists when managing the visual appearance of foods during preparation and processing.

176. (D) Sodium bicarbonate
Sodium bicarbonate, commonly known as baking soda, is a classic example of a chemical leavening agent used in baking. When it reacts with an acidic ingredient and moisture, it produces carbon dioxide gas. The bubbles of gas become trapped in the batter or dough, causing it to expand and rise during the baking process. This results in a light and airy texture in finished products like cakes, muffins, and cookies. Chemical leaveners are valued for their reliability and speed compared to biological leavening agents like yeast.

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177. (A) Dog
In the menu engineering matrix, a "dog" is a menu item that has both low popularity among customers and a low contribution margin or profitability for the operation. These items are often candidates for removal from the menu, as they take up space and resources without providing significant financial or marketing benefits. However, managers should sometimes consider if a "dog" can be modified or renamed before discarding it. Understanding these classifications helps food service managers strategically design their menus to maximize overall sales and profit.

178. (B) Characteristics determining the degree of consumer acceptance.
Food quality is a multi-dimensional concept that encompasses all the characteristics and attributes of a food product that influence its value and its degree of acceptance by the consumer. These include sensory attributes like appearance, flavor, and texture, as well as safety, nutritional content, and convenience. High quality means that the product consistently meets or exceeds the expectations and requirements of the target market. Managing food quality is a central task for everyone in the food supply chain, from farmers to processors and retailers.

179. (A) Only Statement I is correct.
Food packaging is a critical component of food science that serves several essential functions, primarily acting as a barrier to moisture, oxygen, and light. These external factors can lead to microbial spoilage, chemical degradation, and the loss of sensory quality. By providing a protective environment, packaging significantly extends the shelf life and safety of the product. However, the goal of packaging is not to increase the weight of the product, as this would be inefficient and

costly. Effective packaging provides maximum protection with minimal material and weight.

180. (D) 3 and 4 only
Preservation methods like drying and pickling are highly effective because they primarily work by reducing the water activity of the food. Drying removes moisture directly, while pickling often involves adding high concentrations of salt or sugar, which bind with water molecules and make them unavailable for microbial growth. While methods like canning use heat to destroy microbes and freezing uses low temperatures to slow their activity, they do not fundamentally rely on reducing water activity as their primary preservation mechanism. Understanding these principles is essential for effective food preservation.

181. (D) Fundamental research
Fundamental research, also known as basic or pure research, is a type of scientific inquiry driven by the desire to expand existing knowledge and understand the underlying principles of a subject. It focuses on the development of theories and the discovery of new concepts without having an immediate, specific practical application or problem-solving goal in mind. In the long term, the findings of fundamental research often provide the essential foundation for applied research, which then uses that knowledge to solve real-world problems and develop new technologies.

182. (B) The role of dietitians and the need for therapeutic diets.
Food service management in a hospital is uniquely characterized by its integration with patient medical care. A key feature is the central role of registered dietitians, who translate medical requirements into specific therapeutic diets tailored to each patient's condition, such as diabetic, low-sodium, or renal diets. Ensuring that these specialized meals are prepared accurately and safely is a primary responsibility. Unlike many other food service sectors, the focus in hospitals is on supporting patient recovery and health through precise nutritional management and rigorous food safety protocols.

183. (C) Starch content
Physical properties of food are characteristics that can be observed or measured without changing the chemical composition of the food, such as its viscosity, color, and texture. Starch content, however, refers to the specific amount of a chemical substance present in the food. Therefore, it is considered a chemical property rather than a physical one. Distinguishing between physical and chemical properties is essential in food science for selecting the appropriate analytical methods for quality control, research, and the development of new and improved food products.

184. (D) Maillard reaction and caramelization
The characteristic browning and savory flavor of a bread crust during baking are the results of two key non-enzymatic browning reactions. The Maillard reaction occurs between the amino acids from proteins and the reducing sugars in the dough, creating a complex range of flavorful compounds and brown pigments. Simultaneously, as the surface temperature rises, caramelization takes place through the thermal decomposition of sugars. Together, these chemical processes enhance the sensory appeal and quality of baked bread, making it more attractive and delicious for consumers.

185. (A) Both A and R are true and R is the correct explanation of A.
Ethical integrity is the cornerstone of scientific research, and practices like fabrication or falsification of data are strictly prohibited. Fabricating data involves making up results, while falsification involves manipulating data or processes to change the outcome. These unethical actions are harmful because they introduce false information into the scientific record, which can lead to incorrect conclusions and damage the overall credibility of the research community. Maintaining absolute honesty and accuracy in data reporting is essential for ensuring that scientific findings are reliable and trustworthy for everyone.

186. (B) Result in a mushy texture and destruction of B vitamins.
Adding baking soda, an alkaline substance, to the cooking water of green vegetables is sometimes done to brighten their green color. However, this practice has several undesirable consequences. The alkaline environment causes the breakdown

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of hemicellulose in the plant cell walls, leading to an unnaturally mushy texture. More importantly, it can cause the rapid destruction of certain heat-sensitive nutrients, particularly B vitamins like thiamine. Therefore, this method is generally discouraged in modern food preparation as it compromises both the nutritional quality and the desirable texture of the vegetables.

187. (C) New product development
Nanotechnology is considered a cutting-edge application within the field of new product development in the food industry. By manipulating matter at the nanoscale, researchers can create innovative food products with enhanced properties, such as improved nutrient delivery, unique textures, and better flavor stability. Nanotechnology also plays a role in developing "smart" packaging that can detect spoilage. These advancements allow food manufacturers to meet emerging consumer demands for healthier, safer, and more functional foods, representing a significant area of research and innovation in the modern food science landscape.

188. (A) FSSAI License - All food business operators
In India, the Food Safety and Standards Authority of India (FSSAI) is the primary regulatory body responsible for ensuring the safety and quality of food. An FSSAI license is a mandatory requirement for every food business operator, including manufacturers, retailers, and transporters. Other marks like AGMARK are specifically for agricultural products, and the FPO mark was traditionally for fruit products. The FSSAI license represents a unified and comprehensive framework for food safety regulation across the entire country, protecting consumers by ensuring that all food businesses meet established safety standards.

189. (C) Longitudinal study
A longitudinal study is a type of research design that involves following the same group of participants over an extended period of time to observe how specific variables change. This approach is ideal for studying the evolution of eating habits in college students over four years, as it allows researchers to identify trends and potential causal factors at an individual and group level. Unlike cross-sectional studies, which provide only a snapshot at one time, longitudinal research provides deep insights into development and change, making it highly valuable in behavioral and health sciences.

190. (B) P-3, Q-4, R-1, S-2
Implementing a HACCP system involves following a structured set of seven principles. Principle 1 is conducting a hazard analysis to identify risks. Principle 2 is determining the Critical Control Points where these hazards can be managed. Principle 3 involves establishing critical limits for each CCP to define the boundaries of safety. Principle 7 is the final step, which involves establishing comprehensive record-keeping and documentation procedures. Correctly identifying and following these principles in sequence is essential for developing a robust and effective food safety management system for any manufacturing operation.

191. (D) Simplifies purchasing and aids operational cost control.
A cyclic menu, which repeats over a set period, offers several operational advantages in institutional food service. By rotating through a fixed set of planned meals, managers can more accurately predict their ingredient needs, which simplifies the purchasing process and reduces inventory waste. It also allows the kitchen staff to become highly proficient in preparing the dishes, leading to better consistency and more efficient production. These factors combined make a cyclic menu a powerful tool for controlling operational costs while still providing a variety of choices to the patrons.

192. (B) Baking
Moist-heat cooking methods, such as boiling, steaming, and stewing, use water, liquid, or steam to transfer heat to the food. These methods are generally effective for softening tough fibers and maintaining moisture. Baking, on the other hand, is a dry-heat cooking method that uses the hot, dry air in an oven to cook the food through radiation and convection. Dry-heat methods allow for much higher temperatures, which facilitate the browning reactions like the Maillard reaction and caramelization that create unique flavors and textures in the finished products.

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193. (C) Test the product on a small-scale production line to resolve issues before full-scale manufacturing.
In the process of new product development, a pilot plant is a small-scale production facility used to bridge the gap between laboratory research and full-scale manufacturing. It allows food scientists and engineers to test a product's formulation and the manufacturing process on a larger scale than the lab, but smaller than the actual factory. This stage is crucial for identifying and resolving potential production issues, refining process parameters, and producing sufficient samples for further testing and market evaluation before the company commits to high-volume commercial production.

194. (D) The study of food microbiology, chemistry, and engineering.
Food science is a comprehensive and interdisciplinary field that draws upon various scientific branches to understand and manage food. Its key components include food microbiology, which studies the role of microorganisms in safety and spoilage, food chemistry, which examines the composition and chemical changes in food, and food engineering, which focuses on the principles of processing and manufacturing. Integrating these disciplines allows food scientists to develop safe, nutritious, and high-quality food products that meet the needs of a global population while ensuring sustainability and efficiency.

195. (B) 2 and 3 only
To create a liquid food product that is safe at room temperature for an extended period, it is essential to achieve commercial sterility. This is typically done through sterilization methods like Ultra-High Temperature (UHT) processing, which destroys all microorganisms and their resistant spores. Once sterilized, the product must be packaged in an aseptic environment to prevent any re-contamination. This combination of high-heat treatment and aseptic packaging eliminates the need for refrigerated storage or the addition of preservatives, providing a stable and safe product for distribution and consumers.

196. (B) Guide the conduct of researchers to protect participants and ensure the integrity of the findings.
The primary role of ethics in research is to provide a framework of moral principles and professional standards that guide every stage of the study. Ethical guidelines are designed to protect the rights, dignity, and welfare of research participants, ensuring they are not harmed and have provided informed consent. Additionally, research ethics promote honesty, transparency, and accuracy in data collection and reporting, which is essential for maintaining the integrity of the scientific process and ensuring that the final findings are credible and trustworthy for the public.

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197. (A) What is the definition of "food preservation"?
A definition-based question is designed to test an individual's basic knowledge and ability to accurately recall the formal meaning of a specific term or concept. For example, asking for the definition of "food preservation" requires the respondent to provide a clear and concise explanation of the term as it is used in the field of food science. These types of questions form the foundation of more complex assessments, as understanding basic terminology is essential before one can analyze processes, compare methods, or apply knowledge to solve problems.

198. (B) Texture
Texture is a fundamental physical property of food that describes its structural and mechanical characteristics, specifically how it deforms, flows, or breaks when a force is applied during handling or chewing. It is perceived through the senses of touch and hearing and is a critical factor in consumer acceptance. Terms like crispiness, firmness, viscosity, and elasticity all describe different textural attributes. Understanding the science of texture allows food scientists to design products with desirable mouthfeel and to ensure consistency in quality across different batches of processed foods.

199. (C) Maintain or improve safety, freshness, taste, texture, or appearance.
Food additives are substances that are intentionally added to food products for specific technical purposes. Their primary roles are to maintain or improve the safety and freshness of the food by preventing spoilage, as well as to enhance sensory attributes like taste, texture, and appearance. Common additives

include preservatives, emulsifiers, thickeners, and colorants. The use of additives is strictly regulated to ensure they are safe for consumption and perform their intended function without misleading the consumer, ultimately contributing to a diverse and stable food supply for everyone.

200. (A) 2, 1, 4, 3
The historical development of food preservation methods reflects the advancement of human knowledge and technology. Sun drying is one of the oldest methods, used for millennia to preserve fruits and meats. Canning was developed in the early 19th century as a response to the need for stable food for military use. Mechanical freezing became widespread with the advent of refrigeration technology in the 20th century. Irradiation is a more recent development, gaining approval and use for specific food safety and preservation purposes in the late 20th and early 21st centuries.

201. (B) Setting science-based standards and regulating food cycles.
The Food Safety and Standards Authority of India (FSSAI) is the primary government agency responsible for protecting and promoting public health through the regulation and supervision of food safety. Its fundamental functions include establishing science-based standards for food articles and regulating their manufacture, storage, distribution, sale, and import. By creating a unified regulatory framework, FSSAI ensures that food businesses across the entire cycle meet established quality and safety requirements, thereby providing consumers with greater confidence in the safety and wholesomeness of the food supply in India.

202. (A) Only Statement I is correct.
In a hospital setting, the menu serves as an essential communication tool between the clinical staff, particularly the dietitian, and the patient. It informs the patient about the food options available to them, which have been specifically planned to meet their therapeutic needs. While the menu must be appealing to encourage intake, its primary role is clinical and supportive of patient care rather than being a marketing tool to attract outside customers. Understanding this specific function is key to managing food service effectively in a medical and healthcare environment.

203. (C) The feasibility of moving from pilot to commercial scale.
Scalability is a critical concept in new product development that refers to the ability of a process or product to be successfully transferred from a small-scale laboratory or pilot plant environment to full-scale commercial manufacturing. This involve evaluating if the formulation remains stable, if the equipment can handle larger volumes, and if the quality and safety parameters can be consistently maintained. A product that performs well in the lab but cannot be efficiently produced on a large scale lacks scalability, which is essential for commercial viability.

204. (D) The extent to which a research instrument measures what it is intended to measure.
In research, validity is a measure of the accuracy and truthfulness of a research instrument or procedure. It refers to the degree to which a tool, such as a survey or a laboratory test, actually measures the specific concept or variable that it was designed to investigate. Ensuring validity is essential for the credibility of the research findings, as it confirms that the results truly represent the phenomenon being studied. High validity, alongside reliability, is a cornerstone of rigorous and meaningful scientific inquiry across all fields of study.

205. (B) 1, 2, and 3 only
Quality evaluation in food science utilizes both subjective and objective methods to gain a complete understanding of a product. Sensory analysis by human panels is subjective but essential for understanding consumer preference, while instruments like viscometers provide precise, objective data on physical properties. A trained panel can provide highly reliable data that captures sensory nuances beyond the capability of many machines. However, objective methods cannot completely replace the need for sensory evaluation, as consumer liking remains a human judgment that mechanical instruments cannot truly determine or replicate.

206. (B) Sterilization aims to kill all microorganisms including spores, while pasteurization aims to reduce pathogenic/spoilage organisms.

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Pasteurization and sterilization are both thermal preservation methods but they differ in their intensity and primary goals. Pasteurization is a mild heat treatment designed to destroy vegetative pathogens and reduce the number of spoilage organisms, thereby extending shelf life while maintaining food quality. Sterilization, however, uses much higher temperatures for a sufficient time to kill all living microorganisms, including highly resistant bacterial spores. This makes the product commercially sterile, allowing for a much longer shelf life at room temperature, provided the container remains hermetically sealed.

207. (D) Lecithin
Lecithin is a naturally occurring phospholipid found in egg yolks and is widely used in the food industry as a powerful emulsifier. It has a unique molecular structure with both hydrophilic (water-loving) and lipophilic (fat-loving) parts, which allows it to stabilize mixtures of oil and water that would otherwise separate. In culinary applications, egg yolks are essential for creating stable emulsions like mayonnaise and hollandaise sauce. As a food additive, lecithin is used in products such as chocolate and baked goods to improve texture, consistency, and shelf life stability.

208. (A) Determine the precise cost of all ingredients in a single portion to set a profitable selling price.
Cost analysis is a fundamental financial management task in food service that involves calculating the exact expense of every ingredient used in a single portion of a menu item. By understanding the true cost of production, managers can make informed decisions about setting a selling price that covers expenses and generates a reasonable profit. This analysis also helps identify areas where costs can be controlled through better purchasing or portion management. It is an essential process for ensuring the financial health and long-term viability of the operation.

209. (C) Help food manufacturers optimize processes to maximize nutrient retention.
Research investigating the effects of various processing techniques on the nutritional components of food is highly relevant for the food industry. Its primary goal is to provide data that helps manufacturers optimize their production processes, such as heating times and temperatures, to minimize the loss of sensitive vitamins and minerals. By understanding how processing affects nutrients, the industry can develop methods that ensure food products are not only safe and stable but also as nutritious as possible, ultimately benefiting the health and wellness of the consumers.

210. (A) Both A and R are true and R is the correct explanation of A.
In food service management, the menu is widely recognized as the core of the entire operation because it acts as the primary driver for all other activities. Every operational decision, from the types of raw materials to be purchased and the specialized equipment needed for the kitchen to the specific skills required of the staff, is dictated by the items offered on the menu. Therefore, the menu effectively determines the cost structure, service style, and overall efficiency of the facility, making strategic menu planning essential for success.

211. (D) Residue of a cleaning sanitizer on a food contact surface.
A chemical hazard in food refers to the presence of harmful chemical substances that can cause illness or injury. Examples include pesticide residues, naturally occurring toxins, and accidental contamination with industrial or cleaning chemicals. The residue of a cleaning sanitizer left on a food contact surface is a clear example of a chemical hazard. Unlike biological hazards like viruses or physical hazards like pieces of bone, chemical hazards require rigorous control through proper labeling, storage, and standard operating procedures for cleaning and sanitizing in food production.

212. (B) A Triangle Test
When a manufacturer needs to determine if there is a perceptible sensory difference between two formulations, such as two versions of a cola, the triangle test is the most appropriate method. In this test, a panelist is presented with three coded samples, two of which are identical and one of which is different. The person is asked to identify the odd sample. If a statistically significant number of participants correctly identify the different sample, it indicates that a detectable

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difference exists, providing valuable information for product development.

213. (C) Preferences, nutrition, speed, and budget constraints.
Managing food service in an educational institution, such as a university, requires a careful balance between several competing factors. The menu must be appealing enough to satisfy student preferences while also meeting established nutritional guidelines for a healthy diet. Furthermore, because large numbers of students must be served quickly during peak hours, operational efficiency is critical. All of these goals must be achieved within the constraints of a specific budget. Successfully managing these diverse requirements is essential for providing a high-quality food service that supports student life.

214. (D) To obtain informed consent from the participants.
Before beginning any research involving human participants, such as a survey about eating habits, it is an absolute ethical requirement to obtain informed consent. This process ensures that individuals are fully aware of the nature, purpose, and potential risks of the research before they agree to participate. It also confirms that their involvement is completely voluntary and that they can withdraw at any time. Respecting the autonomy and rights of participants is a fundamental principle of ethical research conduct and is essential for maintaining the integrity of the study.

215. (C) P-3, Q-1, R-4, S-2
During cooking and processing, the primary components of food undergo specific chemical and physical changes that affect their quality. Starch granules swell and burst in a process called gelatinization when heated in moisture. Proteins undergo denaturation, where their complex structures unfold. Sugars can undergo caramelization at high temperatures, leading to browning and new flavors. Fats are susceptible to rancidity through oxidation or hydrolysis, which produces undesirable off-flavors. Understanding these transformations is essential for controlling the final texture, flavor, and shelf life of processed food products.

216. (B) Salt used for seasoning
While many substances are added to food during processing, not all are classified as "food additives" in the regulatory sense. Salt used for seasoning is generally considered a traditional food ingredient rather than a chemical additive. In contrast, substances like sodium erythorbate (antioxidant), tartrazine (colorant), and xanthan gum (thickener) are specifically classified as additives because they are used in small amounts for specific technical functions. Understanding these distinctions is important for accurate labeling and for complying with food safety and regulatory standards in different regions.

217. (A) Gelatinization
Gelatinization is a critical process in food science that occurs when starch granules are heated in the presence of water. As the temperature rises, the granules absorb water and swell significantly, eventually bursting and releasing starch molecules, particularly amylose, into the surrounding liquid. This process leads to a significant increase in the viscosity of the mixture and is responsible for the thickening of sauces, gravies, and the structure of baked goods. The specific temperature at which this occurs depends on the source and type of the starch used.

218. (B) Calculating the cost of ingredients, labor, and overhead to determine profitability.
Food cost analysis is a comprehensive financial management process used to evaluate the total expenses associated with producing and serving food. It involves calculating the precise cost of all ingredients, as well as accounting for labor and other operational overheads. By understanding these costs, managers can determine the profitability of each menu item and make informed decisions about pricing, portion sizes, and resource allocation. This systematic analysis is essential for maintaining the financial health of the operation and for identifying areas where efficiency can be improved over time.

219. (C) Chemical makeup, microbial load, and packaging.
The shelf life of a food product is the period during which it remains safe to consume and maintains its intended sensory and nutritional quality. It is primarily determined by the complex interaction

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of the food's chemical makeup, the initial microbial load present, and the effectiveness of the packaging material in providing a barrier against the environment. Factors like moisture content, pH, and the presence of preservatives also play key roles. Accurate shelf-life determination is essential for ensuring consumer safety and for managing inventory and distribution in the food industry.

220. (B) 1, 2, 3, and 4 only
Developing a new food product involves several critical activities across different scientific and management disciplines. These include conducting sensory evaluation to ensure consumer acceptance, performing chemical analysis to determine the nutritional profile, and establishing a HACCP plan to guarantee food safety during production. Additionally, calculating food costs and setting a viable selling price is essential for commercial success. However, ignoring safety regulations is a violation of legal and ethical standards. Successfully integrating these diverse activities is what ensures the creation of a high-quality, safe, and profitable food product.

221. (A) Infection is caused by ingesting the live pathogen, while intoxication is caused by ingesting a toxin produced by the pathogen.
Foodborne illnesses are generally categorized into infections and intoxications based on their underlying cause. A food infection occurs when a person ingests food contaminated with living pathogens, such as Salmonella, which then multiply in the body and cause illness. In contrast, food intoxication results from consuming food that contains toxins produced by microorganisms, such as Staphylococcus aureus or Clostridium botulinum, while the food was being stored. Understanding the distinction is vital for implementing the correct food safety controls and for diagnosing and treating the resulting illnesses effectively.

222. (B) Very low temperatures, typically using liquid nitrogen or carbon dioxide.
Cryogenic freezing is an advanced food preservation method that uses extremely low temperatures to freeze food almost instantaneously. This is typically achieved by directly exposing the food to liquid nitrogen or solid carbon dioxide. The rapid freezing process results in the formation of very small ice crystals, which causes minimal damage to the cellular structure of the food. This helps maintain the superior texture, flavor, and nutritional quality of the product compared to conventional freezing methods. Cryogenic freezing is often used for high-value or delicate food items.

223. (C) A tentative, testable prediction about the relationship between variables.
In the context of scientific research, a hypothesis is a tentative and testable statement that predicts a relationship between two or more variables. It is based on existing knowledge or observations and serves as a guide for the investigation. A good hypothesis must be specific and capable of being supported or refuted through systematic data collection and analysis. Developing a clear hypothesis is a fundamental step in the research process, as it allows researchers to focus their efforts and provides a framework for interpreting the final results.

224. (D) Ensuring rapid, safe, and adequate food distribution.
Food service management in a disaster relief camp is characterized by the urgent need to provide sustenance to a large number of people under challenging and often unpredictable conditions. The primary focus must be on ensuring that safe and nutritionally adequate food is distributed as rapidly and efficiently as possible. This requires simplified menus, robust logistics for sourcing and transporting supplies, and a strong emphasis on basic food safety and hygiene to prevent outbreaks of illness. In this setting, meeting the fundamental survival needs of the population is the top priority.

225. (A) The consistency or viscosity of a semi-solid food.
The Line-Spread Test is a simple yet effective objective method used in food science to measure the consistency or viscosity of semi-solid foods, such as sauces, puddings, or purees. The test involves placing a specific volume of the sample on a flat surface and measuring how far it spreads over a set period of time. A more viscous product will spread less than a thinner one. This provides quantifiable data that helps ensure product consistency and is a common quality control tool

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in both research and industrial food production settings.

226. (B) To destroy pathogenic microorganisms and extend shelf life.
Pasteurization is a fundamental heat treatment process applied to milk and many other liquid food products. Its primary purpose is to destroy all pathogenic microorganisms that could cause disease in humans, such as Mycobacterium tuberculosis and Salmonella. Additionally, the process inactivates many spoilage-causing bacteria and enzymes, thereby extending the shelf life of the product when kept under refrigeration. Because it uses relatively mild heat, pasteurization achieves these safety and stability goals while causing minimal changes to the sensory and nutritional qualities of the milk for the consumer.

227. (C) Anthocyanins are stable across all pH levels.
Understanding the properties of food pigments is essential in food science. Anthocyanins, which provide red, purple, and blue colors, are notably sensitive to changes in pH, which can significantly alter their hue. Labeling them as "stable across all pH levels" is incorrect. Other pigments like chlorophyll provide green colors, and carotenoids are important fat-soluble molecules that serve as precursors to Vitamin A. Myoglobin is the primary pigment in meat. Correctly managing these pigments is crucial for maintaining the visual appeal and quality of food products during various processing and cooking methods.

228. (D) It violates intellectual property rights and represents a form of academic dishonesty.
From an ethical and professional perspective, plagiarism is a serious offense because it involves the theft of intellectual property and represents a fundamental lack of academic honesty. By presenting the work, ideas, or results of others as one's own, a researcher fails to give credit to those who did the work and misleads the scientific community. Maintaining academic integrity through proper citation and acknowledgment is essential for fostering trust, ensuring fair recognition of contributions, and maintaining the overall credibility and quality of scientific research and reporting for all.

229. (A) Ensuring consistency and controlling food costs.
Portion control is a critical management practice in food service that involves ensuring every serving of a specific dish is identical in size and weight. This consistency is essential for meeting customer expectations and providing perceived value. Furthermore, precise portion control is a fundamental tool for managing food costs, as it allows managers to accurately calculate the cost per serving and minimize waste. By using standardized tools like scoops, scales, and ladles, food service operations can maintain both quality standards and financial sustainability in a highly competitive market environment.

230. (B) 1, 3, and 4 only
Ensuring the microbiological safety of food requires a comprehensive approach to hygiene and handling. Key practices include proper handwashing to prevent the transfer of pathogens, avoiding cross-contamination between raw and cooked foods, and cooking food to the correct internal temperatures to kill harmful bacteria. However, it is important to remember that the "danger zone" (5°C to 60°C) is the range where bacteria grow rapidly, not slowly. Understanding and correctly applying these safety principles is essential for preventing foodborne illness and protecting public health in any food-handling setting worldwide.

231. (C) Combining several milder preservation methods to create a series of 'hurdles' that microbes cannot overcome.
Hurdle technology is an advanced approach to food preservation that involves the strategic combination of several milder preservation methods, such as controlled temperature, reduced water activity, and adjusted pH. Each individual method, or "hurdle," might not be enough to preserve the food alone, but when used together, they create a multi-layered barrier that spoilage and pathogenic microorganisms cannot overcome. This approach allows for the creation of safe and stable products that maintain higher sensory and nutritional quality compared to products preserved with a single, more intense method.

232. (D) The process of comparing one's own product or processes against the best-in-class competitors.

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Benchmarking is a strategic management tool used in the new product development process to evaluate a company's performance by comparing its products or processes against those of leading competitors. By identifying "best-in-class" standards for quality, cost, and efficiency, a company can identify specific areas for improvement and set more ambitious goals for innovation. Benchmarking helps ensure that new products are competitive in the market and that the development process is as effective as possible. It is a key practice for maintaining competitiveness and driving continuous improvement in any industry.

233. (A) Providing quick, affordable, and energy-providing meals.
Managing an industrial canteen focuses on meeting the specific needs of a workforce that often has limited time for meal breaks. The primary goals are to serve large numbers of people efficiently, provide wholesome and energy-dense meals that support physical activity, and maintain affordability for the workers. This requires streamlined production systems, a focus on high-volume recipes, and effective logistical management. While variety is important, the priority is on consistent, nutritious sustenance that supports the health and productivity of the employees in a cost-effective manner for the organization.

234. (B) The benefits and burdens of research should be distributed fairly among the population.
The ethical principle of justice in research requires that the benefits and the burdens of the study be distributed fairly across all groups in society. This means that no single group should be unfairly targeted for risky research, and that the benefits of the findings should be accessible to those who participated. Researchers must be careful in their selection of participants to ensure that individuals are not being exploited because of their vulnerability. Justice ensures that the research process is fair, inclusive, and socially responsible in its conduct and outcomes.

235. (A) Both A and R are true and R is the correct explanation of A.
Objective methods of food evaluation are essential in food science because they utilize calibrated instruments to measure specific physical and chemical properties. These instrumental methods provide numerical data that is more precise, repeatable, and free from the human biases that can affect subjective sensory judgments. By using tools like pH meters or colorimeters, researchers can gather standardized data that allows for rigorous quality control and accurate comparisons between different product batches. This objectivity is fundamental for scientific research and for ensuring consistent product quality in the food industry.

236. (D) The stage where a detailed product idea is consumer tested.
In the process of new product development, the "concept" stage is when a detailed version of the product idea is formally presented to potential consumers to gauge their interest and reaction. This testing helps developers understand if the product's benefits are clearly perceived and if it meets a genuine need or desire in the market. Feedback gathered during this stage is invaluable for refining the product idea, identifying potential improvements, and making an informed decision about whether to proceed with more costly prototype development and large-scale manufacturing in the future.

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237. (A) Agricultural and livestock products
AGMARK is a well-established quality mark and certification system in India that specifically applies to agricultural and livestock products. It ensures that commodities like pulses, cereals, honey, and ghee meet established quality and grading standards set by the government. The presence of the AGMARK seal provides consumers with an assurance of the product's purity and quality, while also facilitating better marketing and trade for producers. This system plays a crucial role in protecting consumer interests and maintaining standards within the diverse agricultural sector of the country.

238. (B) A fruit jelly that has been stored for a while
Syneresis is a physical phenomenon where liquid is excluded or "weeps" from a gel structure, and it is frequently observed in products like fruit jellies, yogurt, or custards that have been stored for some time. This occurs as the gel network, made of molecules like pectin or starch, gradually contracts over time and squeezes out some of the entrapped water. While syneresis can sometimes

be a quality defect that affects the appearance of the product, it is a natural process that provides insights into the stability and structural changes of food gels.

239. (C) Balancing patient therapeutic needs and food safety.
The most significant challenge in hospital food service management is the complex task of providing specialized therapeutic diets that meet individual medical needs while maintaining the highest possible standards of food safety. These operations must cater to vulnerable patients with diverse conditions, requiring a high level of precision in meal planning and preparation. Balancing the clinical requirements for specific nutrients or textures with the need to prevent foodborne illness is a primary responsibility. This requires close collaboration between medical, dietary, and kitchen staff to ensure that every meal supports patient recovery.

240. (A) P-3, Q-4, R-1, S-2
Food science and management integrate several specialized fields. HACCP is a fundamental system for food safety management, focusing on identifying and controlling hazards. Menu engineering is a strategic tool in food service management used to analyze and optimize the performance of menu items. The hedonic scale is a widely used method in sensory evaluation for measuring consumer liking and preference. Informed consent is a critical ethical requirement in research methods involving human participants. Correctly identifying these links is essential for a comprehensive understanding of how these disciplines work together in the food industry.

241. (A) Physical properties can be observed without changing the food's chemical composition, while observing chemical properties involves a chemical change.
The fundamental difference between the physical and chemical properties of food lies in how they are observed and measured. Physical properties, such as color, texture, and viscosity, can be assessed without altering the fundamental chemical identity of the food. Chemical properties, however, describe the potential for a substance to undergo a chemical change or reaction, such as susceptibility to oxidation or changes in pH. Understanding this distinction is essential for food scientists to select the most appropriate analytical methods and for managing the various changes that occur during food processing and storage.

242. (C) Both Statement I and Statement II are correct.
In food service management, different types of menus are used to achieve specific operational goals. A cyclic menu consists of a planned series of menus that are repeated over a set period, such as weekly or monthly, and is common in institutional settings like schools and hospitals. A static menu offers the same selection of dishes every day and is typically found in commercial restaurants and cafes where consistency is expected. Both types of menus have unique advantages for providing variety, managing costs, and simplifying production and service for different audiences.

243. (C) Clostridium botulinum
The primary food safety risk associated with improperly canned low-acid foods is the growth of Clostridium botulinum. These bacteria can survive in anaerobic environments and produce a highly potent and deadly neurotoxin if the thermal processing is insufficient to destroy their resistant spores. Because low-acid environments do not inhibit their growth, strict adherence to established canning times and temperatures is mandatory. Preventing botulism is a critical objective of industrial and domestic canning processes, highlighting the vital importance of scientific principles and rigorous control in food preservation for consumer safety.

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244. (D) Provide a standard of comparison for the experimental group.
In an experimental research study, the primary purpose of a control group is to provide a baseline or a standard of comparison. This group is kept under identical conditions as the experimental group but does not receive the specific treatment or variable being tested. By comparing the outcomes of the two groups, researchers can more accurately determine if any observed effects are truly caused by the intervention rather than by other factors. This increased control over variables is essential for the validity and reliability of the study's final conclusions and findings.

245. (A) 1, 2, and 3 only
Managing food service in a senior citizen home requires a focus on the unique nutritional and physiological needs of an elderly population. Key considerations include providing nutrient-dense foods to prevent malnutrition, offering soft and easy-to-chew options for those with dental issues, and planning menus that accommodate common therapeutic diets like low sodium or low sugar. While variety and appeal are important, the priority is on supporting the health and well-being of the residents through balanced, safe, and easily digestible meals. Rapid service and trendy menus are generally less critical than individual care.

246. (B) Nutrition
Nutrition is the biological and health science that focuses on how the human body utilizes food substances to support growth, repair, and overall well-being. It examines the entire process of ingestion, digestion, absorption, transport, and metabolism of nutrients, as well as the excretion of waste products. While food science focuses on the properties and transformations of the food itself, nutrition is concerned with the physiological and biochemical responses of the consumer. Understanding both fields is essential for developing food products that effectively support public health and nutritional needs globally.

247. (C) Experimental research
Experimental research is a type of scientific investigation characterized by the researcher's active manipulation of one or more independent variables to observe their effect on a dependent variable. This design often involves the use of both an experimental group and a control group to establish a clear cause-and-effect relationship. By controlling for other factors, experimental research provides strong evidence for how specific changes influence outcomes. This systematic approach is fundamental for testing new products, evaluating the effectiveness of processing methods, and advancing our knowledge in various scientific fields.

248. (D) Primary sweetening agent
Sodium nitrites are multi-functional food additives used in the production of cured meats like ham and bacon. They serve as color fixatives, reacting with myoglobin to produce a stable pink-red color. Additionally, they provide a characteristic cured flavor and are essential for inhibiting the growth of dangerous bacteria, particularly Clostridium botulinum. However, nitrites do not function as sweetening agents. Incorrectly identifying the purpose of a food additive can lead to its improper use, highlighting the importance of understanding the specific technical functions and safety regulations associated with each additive in processing.

249. (A) Color, flavor, texture, food shape, and method of preparation.
Variety is a fundamental principle of effective menu planning, aimed at creating an appealing and nutritionally diverse dining experience. It involves avoiding repetition by incorporating a wide range of colors, flavors, and textures across the different dishes. Additionally, using various food shapes and different methods of preparation, such as roasting, steaming, and frying, helps keep the menu interesting and prevents palate fatigue for the customer. A well-planned menu that offers variety is more likely to satisfy patrons and ensure that their nutritional needs are met through a diverse intake of foods.

250. (A) 3, 2, 4, 1
The implementation of a HACCP system follows a logical sequence of principles to ensure a systematic and preventive approach to food safety. The process begins with Principle 1, which is conducting a comprehensive hazard analysis to identify risks. This is followed by Principle 2, determining the Critical Control Points where these hazards can be managed. Next, Principle 3 involves establishing specific critical limits for each identified CCP. Finally, Principle 4 is establishing monitoring procedures to track the process at each point, ensuring that food safety is consistently maintained throughout the production cycle.

251. (B) The pH value of a tomato puree.
Chemical properties characterize a food's composition and the internal reactions it can undergo during various stages. Acidity levels, specifically measured by pH values, determine how food behaves chemically. Unlike physical attributes like texture or colour, which are measured without altering chemical makeup,

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pH reflects the internal environment and significantly influences flavour, microbial activity, and pigment stability over time.

252. (A) Protein denaturation and texture.
The relationship between chemical changes and physical outcomes is evident during thermal processing. Protein denaturation represents a specific shift in chemical structure that directly manifests as a significant change in the physical property of texture. This transformation is clearly observed when cooking eggs, where the structural modifications of proteins result in a noticeable increase in the food's firmness.

253. (C) To predict and manage changes in food during handling and processing.
Comprehending the interplay between physical and chemical attributes is fundamental for food scientists. This knowledge provides the scientific basis needed to anticipate how ingredients will react under various environmental conditions. By understanding these properties, professionals can effectively regulate and control transformations that occur while food is being processed, stored, or prepared, ensuring that final product quality remains consistent.

254. (D) Moisture content.
Managing the chemical environment of a food product is essential for ensuring long-term stability and safety. Among various chemical properties, moisture levels play a pivotal role in determining overall shelf life. High water availability often promotes rapid microbial growth and undesirable enzymatic activity. Therefore, controlling moisture is a primary concern for scientists aiming to prevent spoilage and extend longevity.

255. (C) A physical property that can be influenced by its chemical environment, such as pH.
Food appearance is an important quality indicator that can be significantly altered by the surrounding chemical environment. While colour is categorized as a physical property, its stability is often dependent on factors like acidity. For example, the pH level of a fruit juice can directly influence the stability of its natural pigments, demonstrating how chemical conditions affect physical attributes.

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256. (B) A panel of consumers rating the creaminess of a yogurt on a 9-point scale.
Subjective evaluation, or sensory analysis, is characterized by its reliance on human senses to assess quality. This method involves using individuals to judge attributes based on personal perception rather than automated measurement. Rating a specific characteristic, such as the perceived creaminess of a product, through a consumer panel exemplifies this approach, as the findings represent collective human opinions and feelings.

257. (D) They fail to measure the overall consumer sensory experience and acceptability.
Objective evaluation relies on calibrated instruments to provide precise and reproducible data regarding specific physical and chemical attributes. However, these methods are limited because they cannot replicate the complex human sensory experience. While instruments measure individual parameters accurately, they fail to provide a holistic assessment of whether a food product will be ultimately accepted or preferred by consumers.

258. (A) It allows sensory data to provide context for instrumental measurements and vice versa.
Optimal food quality assessment requires a balanced approach that utilizes both subjective and objective methodologies. Integrating these methods allows instrumental data to be validated by human perception. Specifically, sensory evaluation provides necessary context for technical measurements, helping scientists understand the consumer relevance of instrumental data. This synergy ensures that products are technically sound while meeting the preferences and expectations of the target audience.

259. (C) Objective, because it is generated by a calibrated instrument.
Using calibrated instruments for food analysis represents an objective evaluation method. These tools generate quantitative and reproducible data that is free from personal bias or psychological influence. A viscometer is a specific example of such instrumentation, used to precisely measure a fluid's resistance to flow. The resulting data provides an unbiased scientific measurement

of a food product's physical thickness and flow characteristics.

260. (A) Subjective evaluation involving a consumer panel.
Determining whether a specific food formulation is well-liked by consumers necessitates the use of subjective evaluation techniques. Since liking is an inherent matter of human preference and sensory perception, instrumental measurements cannot provide this information. A consumer panel is the appropriate tool for this task, as it directly gathers feedback on the holistic sensory experience and overall acceptability of the food product.

261. (D) Vitamin C and B-complex vitamins.
Thermal processing in water causes certain nutrients to move from the food into the liquid medium through a process called leaching. Water-soluble vitamins, such as Vitamin C and those in the B-complex group, are particularly susceptible to this type of loss. If the cooking water is subsequently discarded, a significant portion of these essential micronutrients is lost to the final consumer.

262. (B) Colour and flavour.
The Maillard reaction is a complex chemical process involving amino acids and reducing sugars that occurs during cooking. This reaction is primarily responsible for the development of desirable brown colours and complex flavour profiles in various cooked foods. By influencing both visual appearance and taste, this reaction plays a critical role in defining the sensory characteristics of baked, fried, and roasted food products.

263. (C) The improved digestibility of starches and proteins.
Cooking can significantly enhance the nutritional value of certain foods by making nutrients more available for absorption. The application of heat leads to the denaturation of proteins and the gelatinization of starches. These chemical transformations break down complex structures, making them more accessible to digestive enzymes. Consequently, the body can more efficiently digest and utilize the energy and nutrients from these sources.

264. (D) The breakdown of pectic substances.
The texture of vegetables changes during thermal processing due to structural alterations at the cellular level. Heat causes the breakdown of pectic substances, which are complex carbohydrates found within the plant's cell walls. As these substances decompose, the rigid structure of the vegetable weakens, resulting in a softer texture. This physical change is a direct consequence of the chemical degradation of plant tissues.

265. (A) To achieve a balance between nutrient retention and sensory appeal.
The primary goal of refining food processing methods is to create products that are both nutritious and appealing. This involves optimizing techniques to minimize the loss of heat-labile and water-soluble nutrients. Simultaneously, processors aim to achieve specific sensory goals, such as desirable textures and colours. Successfully balancing nutrient retention with palatability ensures the final food product meets health and consumer satisfaction standards.

266. (B) Removing water to inhibit microbial growth.
Dehydration serves as an effective preservation method by modifying the internal environment of food to prevent spoilage. This technique works by removing water until the remaining moisture is insufficient to support biological activity. By significantly lowering the water level, the growth of bacteria, yeasts, and molds is inhibited. This process extends shelf life by preventing the microbial proliferation that causes food decay.

267. (B) Sterilization achieves commercial sterility, while pasteurization does not kill all spoilage organisms.
While both methods use heat for preservation, they differ in the intensity of treatment and the resulting level of microbial destruction. Pasteurization utilizes milder heat to eliminate pathogens, but it does not kill all spoilage organisms. In contrast, sterilization employs much higher temperatures to achieve commercial sterility, ensuring that the food is free from all viable microorganisms that could grow under normal conditions.

268. (A) Slowing down the metabolic rate of microorganisms.

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Low-temperature preservation methods like refrigeration and freezing operate on the principle of biological inhibition rather than destruction. These techniques significantly reduce the temperature of the food, which slows down the metabolic and reproductive rates of any present microorganisms. By decreasing the speed of these biological processes, the onset of spoilage is delayed, allowing the food to remain safe and edible for longer.

269. (C) The generation of osmotic pressure to dehydrate microbes.
High concentrations of sugar act as a preservative by creating an environment with high osmotic pressure. When microorganisms come into contact with such concentrated solutions, the osmotic gradient causes water to move out of the microbial cells. This process effectively dehydrates the microbes, inhibiting their ability to grow and reproduce. Consequently, high-sugar foods like jams are protected from spoilage through this mechanism.

270. (D) Refrigeration.
Refrigeration is a preservation method that focuses on slowing down microbial activity rather than eliminating the organisms entirely. Unlike high-heat treatments that destroy cell structures, cold storage maintains the food at temperatures where bacterial metabolism and reproduction become extremely sluggish. This inhibition of biological activity significantly delays spoilage, keeping the product fresh for a limited time without permanently destroying the microorganisms present in the food.

271. (C) Pigment degradation due to acidic conditions.
The transformation of chlorophyll into pheophytin illustrates the chemical vulnerability of natural food pigments during processing. When green vegetables are cooked in acidic conditions, the chlorophyll molecules undergo a structural change, resulting in a dull olive-green colour. This degradation highlights how the chemical environment, specifically pH levels, can negatively impact the visual appeal and quality of food by altering its natural pigments.

272. (B) Additives primarily serve functional roles like preservation, while pigments primarily provide colour.
Food pigments and additives serve distinct roles within the food industry. Pigments are specifically responsible for imparting or enhancing the colour of a product, whether they occur naturally or are added. In contrast, the broader category of food additives includes substances used for diverse functional purposes. These functions include extending shelf life through preservation, preventing oxidation, and modifying texture to ensure product consistency.

273. (D) An emulsifier.
Emulsifiers are a specific type of functional food additive used to stabilize mixtures of liquids that normally do not blend well. In products like salad dressings, these substances prevent the separation of oil and water by acting at the interface between the two phases. This modification of texture and physical state ensures that the product maintains a uniform and appealing appearance during storage.

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274. (A) Chlorophylls, carotenoids, and anthocyanins.
Natural food pigments are sensitive compounds whose stability depends on various environmental factors encountered during processing. Groups such as chlorophylls, carotenoids, and anthocyanins can be easily degraded when exposed to heat, light, and oxygen. Furthermore, fluctuations in pH levels can cause significant colour shifts. Understanding these sensitivities is crucial for food processors who aim to maintain the vibrant and natural appearance of food.

275. (C) To guarantee their safety for human consumption.
The regulation of food additives is a critical function of food safety authorities worldwide. These substances are strictly monitored to ensure they do not pose any health risks to the public when used at specified concentrations. By establishing legal limits and approving only safe ingredients, regulators guarantee that every additive used in production is safe for human consumption, maintaining high standards of safety.

276. (A) Proactively identifying and controlling potential food safety hazards during production.
The HACCP system is built on a proactive philosophy that emphasizes the prevention of food safety issues. Rather than relying on testing the final product after production is

complete, this science-based approach focuses on identifying potential hazards throughout the entire manufacturing process. by implementing controls at specific stages, producers can effectively minimize risks and ensure that food is safe before it reaches consumers.

277. (D) A point in the process where control can be applied to prevent or eliminate a food safety hazard.
In food safety management, a Critical Control Point represents a specific stage in the production process where intervention is possible. These points are identified during hazard analysis as locations where a safety risk can be effectively prevented, eliminated, or reduced to an acceptable level. Establishing control at these points is essential for maintaining the overall integrity and safety of the food being produced.

278. (B) A protective barrier against external contamination.
Food packaging serves a vital functional role that extends beyond simple containment. It acts as a robust physical barrier that shields the product from various external threats during transportation and storage. By preventing exposure to microbial, chemical, and physical contaminants, packaging preserves the quality and safety established during processing. Maintaining the integrity of this barrier is essential for protecting the health of consumers.

279. (C) By providing a legal framework that includes limits for contaminants and labeling rules.
Food standards contribute to safety by providing a comprehensive legal and regulatory framework for the entire industry. These standards establish clear limits for various contaminants and regulate the types and amounts of additives that may be used. Additionally, they mandate specific labeling requirements to inform consumers. This structured approach ensures that all food producers follow consistent rules to protect public health.

280. (D) The success of a HACCP system can be compromised by inadequate packaging.
The effectiveness of a food safety plan is highly dependent on the integrity of the packaging used for the final product. Even if a rigorous HACCP system is followed during production, inadequate packaging can allow for external contamination during the distribution phase. Therefore, failures in packaging can effectively negate the safety benefits achieved through careful process control, highlighting the interconnectedness of these elements.

281. (A) Influences purchasing, staffing, and equipment decisions.
The menu functions as the central management tool in any food service operation because it determines the necessary resources for daily functioning. It dictates the types of ingredients that must be purchased, the specific skills required from the staff, and the equipment needed in the kitchen. By guiding these operational decisions, the menu directly influences the efficiency and overall success of the business.

282. (B) The marketing and advertising budget.
Strategic menu planning requires the careful integration of several operational and consumer-focused factors. Managers must consider the nutritional needs and preferences of their target audience, the availability of seasonal ingredients, and the technical abilities of their kitchen staff. While budgeting for food and labor is essential, the advertising and marketing budget is generally not a direct factor used to design the menu itself.

283. (B) To assess and control the financial performance of the menu.
Food cost analysis is a vital process for ensuring the financial sustainability of a food service business. By calculating the exact cost of ingredients for every item offered, managers can determine if the menu is operating profitably. This analysis allows for the assessment of financial performance and provides the data necessary to make informed decisions regarding pricing, portion sizes, and waste reduction.

284. (A) The cost of food sold and the revenue generated from that food.
The food cost percentage is a critical metric used to evaluate the efficiency of a food service operation. It is calculated by determining the ratio between the total cost of the food sold and the total revenue that food has generated. Monitoring this percentage helps management track profitability and assess how effectively they are controlling ingredient costs in relation to their sales.

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285. (C) Implementing standardized recipes and portion control.
Effective food cost control is achieved through the implementation of standardized operational procedures. Strategies such as using standardized recipes and maintaining strict portion control ensure that ingredient usage remains consistent and predictable. By minimizing waste and practicing strategic purchasing, managers can keep costs within budget. These disciplined practices are essential for maintaining the financial health and profitability of any professional food service establishment.

286. (D) A primary mission centered on nutrition and welfare rather than profit.
Institutional food service is distinguished by its primary mission of providing for the welfare and nutritional needs of specific groups. Unlike commercial enterprises that prioritize profit maximization, these services often operate on a non-profit basis within hospitals or schools. Their focus is on delivering balanced and nutritionally adequate meals to a captive audience, ensuring that dietary requirements are met for all residents.

287. (C) Providing therapeutic diets and maintaining strict hygiene.
Hospital food service operations must prioritize the health and recovery of their patients above all other considerations. This specialization involves the development of therapeutic diets that are precisely tailored to meet specific medical needs. Additionally, maintaining exceptionally high hygiene standards is mandatory to protect vulnerable individuals from foodborne illnesses. These priorities ensure that the food service effectively supports the medical treatment provided.

288. (B) Simplify operational planning and purchasing while providing variety over time.
A cyclical menu is frequently implemented in institutional settings to balance the need for variety with operational efficiency. By rotating a set of menus over a specific period, managers can simplify the processes of planning and procurement. This approach allows the kitchen to provide diverse meal options for residents while maintaining a predictable schedule for ingredient ordering and staff preparation tasks.

289. (D) Managing high-volume production for affordable meals in limited time.
Food service management in educational institutions faces the unique challenge of producing high volumes of food within very short timeframes. These operations must provide nutritious and appealing meals that are affordable for a large student population. Balancing the need for rapid service during peak periods with the goal of maintaining high nutritional standards requires exceptional coordination, efficient production methods, and strategic planning.

290. (A) The challenge of operating within very tight budgetary limits.
Social and special institutions, such as orphanages and care homes, often face significant financial challenges in their food service operations. These facilities are typically constrained by very tight budgetary limits, which demand a high degree of efficiency in menu planning and purchasing. Managing resources carefully while ensuring the residents receive balanced and culturally appropriate meals is a constant and demanding priority.

291. (C) The demands and trends of the consumer market.
The process of developing new food products is primarily guided by the needs and desires of the target market. Food scientists and manufacturers analyze evolving consumer tastes, lifestyle trends, and dietary requirements to identify market opportunities. By focusing on consumer-driven insights, the industry can create innovative products that are more likely to achieve commercial success and satisfy the changing demands of the public.

292. (A) To protect and deliver sensitive bioactive compounds.
Nanoencapsulation is an innovative technique used in food science to improve the delivery of essential nutrients. This process involves coating sensitive bioactive compounds, such as vitamins or omega-3 fatty acids, at the molecular level. By creating this protective layer, these substances are shielded from degradation during processing and digestion. This ensures they are delivered effectively to the body, enhancing their overall bioavailability.

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293. (D) Detecting the presence of contaminants or spoilage.
Nanosensors represent a significant advancement in food safety and quality monitoring. These tiny devices are designed for the rapid and precise detection of various contaminants, including pathogens, allergens, and chemical spoilage indicators. By integrating these sensors into the production and distribution chain, the food industry can identify potential safety issues much more quickly than traditional methods, significantly enhancing overall consumer protection.

294. (B) Improving barrier properties or adding antimicrobial functions.
Nanotechnology offers innovative solutions for improving the performance of food packaging materials. By manipulating matter at the atomic scale, scientists can create packaging with superior barrier properties that better protect food from gases and moisture. Additionally, antimicrobial agents can be embedded within the material to inhibit microbial growth. These advancements help to extend the shelf life and maintain the quality of products.

295. (C) The need for safety assessment and regulatory oversight.
While nanotechnology provides numerous potential benefits for the food industry, it also raises important safety and ethical questions. There is a recognized need for a robust regulatory framework to oversee the use of nanomaterials in food products. Concerns regarding long-term health effects and consumer safety must be addressed through thorough scientific research and transparent oversight to ensure public trust and safety.

296. (D) To solve problems related to public health and food security.
The primary motivation for conducting research in food science and nutrition is to address critical global challenges. Scientific inquiries aim to solve fundamental and applied problems related to public health and food security. By advancing our understanding of food components and dietary patterns, researchers can develop evidence-based strategies to improve nutritional outcomes and ensure a stable and safe food supply.

297. (A) Developing a nutrient-fortified biscuit for a school feeding program.
Applied research in the food sector is characterized by its focus on solving practical problems and developing tangible products. An example of this is the creation of a nutrient-fortified biscuit designed for school feeding programs. This type of inquiry takes scientific knowledge and applies it to meet a specific nutritional need or market demand, resulting in a product that directly benefits a population.

298. (B) Participants must be fully informed about the study before they agree to be part of it.
Informed consent is a foundational principle of ethical research involving human participants. This process requires that all individuals participating in a study are fully briefed on the purpose, procedures, potential risks, and expected benefits of the research. Participants must provide their agreement voluntarily based on this comprehensive information. This ensures that the rights and autonomy of human subjects are respected.

299. (B) The accurate and honest recording and reporting of research data.
Data integrity is a fundamental ethical requirement that ensures the credibility and reliability of scientific research. It involves the honest and accurate recording, reporting, and maintenance of all research data collected during a study. By preventing the manipulation or falsification of results, researchers maintain the trust of the scientific community and the public, ensuring that conclusions are based on truthful evidence.

300. (A) Avoidance of plagiarism.
Plagiarism is a serious ethical violation in research that occurs when a scientist fails to properly credit the work or ideas of others. Ethical conduct requires that researchers acknowledge all sources of information and previously published work. Avoiding plagiarism is essential for maintaining integrity and honesty in the scientific process, as it ensures that intellectual contributions are accurately recognized within the research community.

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CHAPTER 02
Nutrition and Dietetics

1. Which of the following best defines a 'balanced diet'?
(A) A restrictive diet consisting solely of fresh fruits and high-fiber vegetables.
(B) A nutritionally complete diet providing essential nutrients in the correct proportions.
(C) A diverse diet that includes all basic food groups in any random proportion.
(D) A restrictive diet focused on the total elimination of carbohydrates and fats.

2. From a public health nutrition perspective, what is the primary goal?
(A) To optimize the health and nutritional status of entire populations.
(B) To design specialized, high-performance dietary plans for elite athletes.
(C) To treat and manage cases of acute malnutrition within hospital settings.
(D) To innovate and develop novel food products for global commercial markets.

3. During pregnancy, an increased intake of which micronutrient is crucial for preventing neural tube defects in the fetus?
(A) Vitamin C
(B) Calcium
(C) Folic Acid
(D) Iron

4. Which of the following is NOT a method of nutritional assessment?
(A) Anthropometric measurements
(B) Biochemical tests
(C) Clinical examination
(D) Financial audit

5. Match the items in List I with the items in List II.
List I: (Nutrient Deficiency)
P. Iodine
Q. Vitamin C
R. Niacin
S. Vitamin D
List II: (Disease)
1. Scurvy
2. Pellagra
3. Rickets
4. Goitre
(A) P-4, Q-1, R-2, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-1, S-2
(D) P-2, Q-1, R-4, S-3

6. Which of the following is an example of a macronutrient?
(A) Iron
(B) Protein
(C) Vitamin B12
(D) Zinc

7. Read the given statements and select the correct option.
Statement I : Diet counseling involves providing personalized nutritional guidance to an individual.
Statement II : The primary aim of diet management is to modify dietary habits to address specific health conditions or goals.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

8. Consider the following statements regarding community nutrition:
a. It focuses on individual patient care in a hospital setting.
b. It aims to improve the health of populations and subgroups.
c. It often involves government programs and public health initiatives.
d. It is synonymous with sports nutrition.
e. Its primary goal is the prevention of nutritional problems within a community.
Which of the above statements are correct?
(A) a, c, and d

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(B) b, c, and e
(C) a, b, and e
(D) c, d, and e

9. What is the fundamental purpose of research in the field of nutrition and dietetics?
(A) To implement aggressive marketing strategies for specific dietary supplements.
(B) To design elaborate and complex culinary recipes for specialized magazines.
(C) To generate new knowledge, validate practices, and solve health problems.
(D) To manage and regulate the market prices of essential food commodities.

10. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : In a nutritional emergency, the initial focus is on providing energy-dense foods and preventing dehydration.
Reason (R) : During disasters, metabolic rates increase due to stress and potential for infection, increasing immediate energy and fluid requirements.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

11. What does the term 'food security' primarily encompass?
(A) The consistent availability of certified organic and non-processed foods.
(B) The total government oversight and control of all national food production.
(C) The restricted and exclusive use of genetically modified agricultural crops.
(D) The physical, social, and economic access to sufficient and safe food.

12. Arrange the following stages of the human life cycle in chronological order from conception:
1. Adolescence
2. Infancy
3. Prenatal period
4. Childhood

(A) 3, 2, 4, 1
(B) 2, 3, 4, 1
(C) 3, 4, 2, 1
(D) 1, 4, 2, 3

13. In clinical nutrition, a therapeutic diet for a patient with hypertension would most likely emphasize:
(A) Increased sodium and high-fat foods.
(B) A high-protein, low-carbohydrate regimen.
(C) Reduced sodium and increased potassium.
(D) Unrestricted intake of processed foods.

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14. The food pyramid visually represents dietary guidelines by placing foods that should be consumed the most at the:
(A) Top of the pyramid.
(B) Middle of the pyramid.
(C) Outside of the pyramid.
(D) Base of the pyramid.

15. Consider the following statements about micronutrients:
a. They are required by the body in large amounts.
b. Vitamins and minerals are examples of micronutrients.
c. They are crucial for metabolic functions and cellular processes.
d. Carbohydrates are the most important micronutrient.
Which of the above statement(s) is/are correct?
(A) a and d only
(B) b and c only
(C) a, b, and c
(D) b, c, and d

16. Which nutrient deficiency is classically associated with the condition known as 'anemia'?
(A) Calcium
(B) Iron
(C) Vitamin K
(D) Iodine

17. Which of the following is an example of an incorrect statement regarding public health nutrition?
(A) It addresses complex nutrition-related challenges at a broad population level.
(B) It focuses exclusively on the clinical treatment of rare metabolic disorders.

(C) It involves the systematic formulation and implementation of nutrition policies.
(D) It prevents both undernutrition and overnutrition within diverse communities.

18. The period of 'adolescence' is characterized by a significant growth spurt, which increases the requirement for:
(A) Increased energy, protein, and minerals such as calcium and iron.
(B) Maintenance of adequate levels of water and basic electrolytes only.
(C) Reduction in total nutrient intake to manage potential weight gain.
(D) Supplementation primarily focused on essential fat-soluble vitamins.

19. In sports nutrition, what is the primary role of carbohydrates for an athlete?
(A) To build and repair muscle tissue.
(B) To regulate body temperature.
(C) To serve as the main source of energy for fuel.
(D) To enhance the absorption of fat-soluble vitamins.

20. Match the items in List I with the items in List II.
List I: (National Nutrition Programme)
P. Integrated Child Development Services (ICDS)
Q. Mid-Day Meal Scheme (MDM)
R. Janani Shishu Suraksha Karyakram (JSSK)
S. National Iodine Deficiency Disorders Control Programme (NIDDCP)
List II: (Primary Target Group)
1. School-going children in primary and upper primary classes.
2. Pregnant women, lactating mothers, and children under 6 years.
3. The entire population, through iodized salt.
4. Pregnant women and sick newborns.
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-3, R-4, S-1

21. A research design that studies a group of individuals at a single point in time to assess the prevalence of a condition is called:
(A) A cohort study.
(B) A randomized controlled trial.
(C) A cross-sectional study.
(D) A case-control study.

22. Which of the following is a key principle of effective diet counseling?
(A) Imposing a rigid, standardized, one-size-fits-all dietary strategy.
(B) Establishing rapport and working collaboratively with the individual.
(C) Focusing predominantly on the client's past failures and challenges.
(D) Providing complex biochemical explanations without any simplification.

23. Which of these is NOT a food group in the basic food group classification?
(A) Cereals and Millets
(B) Pulses and Legumes
(C) Fats and Sugars
(D) Supplements and Additives

24. A deficiency of Vitamin A can lead to which of the following conditions?
(A) Xerophthalmia
(B) Beriberi
(C) Scurvy
(D) Rickets

25. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Community nutrition programs are essential in developing countries.
Reason (R) : These programs address widespread issues like protein-energy malnutrition, micronutrient deficiencies, and promote health equity.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

26. Which physiological change during old age is a major nutrition concern?
(A) Decreased basal metabolic rate and loss of lean body mass.
(B) Increased metabolic rate.

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(C) Enhanced sense of taste and smell.
(D) Increased absorption of all nutrients.

27. The 'Body Mass Index (BMI)' is a nutritional assessment tool that relates:
(A) Height and waist circumference.
(B) Age and weight.
(C) Hip and waist ratio.
(D) Weight and height.

28. Read the given statements and select the correct option.
Statement I : Therapeutic nutrition involves the modification of a normal diet to meet the requirements of a sick individual.
Statement II : A liquid diet is an example of a therapeutic diet modification.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

29. The concept of "macro and micro nutrition" is based on:
(A) The physical size of the food item.
(B) The caloric density of the nutrients.
(C) The quantity in which the nutrients are required by the body.
(D) The origin of the nutrients (plant vs. animal).

30. Consider the following statements regarding the principles of nutrition in emergencies and disasters:
a. The immediate priority is to provide safe water and adequate energy.
b. Individualized therapeutic feeding is the first line of response for the entire affected population.
c. Fortified blended foods are often used to prevent micronutrient deficiencies.
d. Nutritional assessment should be conducted rapidly to identify vulnerable groups.
e. Long-term dietary diversity is a more immediate concern than preventing starvation.
Which of the above statement(s) is/are correct?
(A) a, c, and d
(B) b, d, and e
(C) a, b, and c
(D) c, d, and e

31. Which of the following is considered a role of nutrients in the body?
(A) All of the above.
(B) Providing energy only.
(C) Body building and repair only.
(D) Regulation of body processes only.

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32. The "purpose of research" in dietetics is best described as:
(A) To confirm existing professional biases and preconceived personal notions.
(B) To systematically investigate problems to reach new scientific conclusions.
(C) To collect individual opinions without performing any systematic analysis.
(D) To exclusively review historical dietary practices of ancient civilizations.

33. Which is the most appropriate first step in diet management for a newly diagnosed diabetic patient?
(A) Prescribing immediate insulin therapy without prior dietary consultation.
(B) Conducting a comprehensive diet history and lifestyle assessment.
(C) Providing a generic dietary chart obtained from an internet source.
(D) Instructing the patient to immediately cease eating all carbohydrates.

34. A key objective of a National Nutrition Policy is to:
(A) Ensure nutritional well-being for all citizens and combat malnutrition.
(B) Increase the total volume and value of exported agricultural products.
(C) Regulate the standard operating hours and sanitation of restaurants.
(D) Promote a single, standardized type of diet for the whole population.

35. Consider the following statements regarding nutritional requirements for Indians:
a. The ICMR (Indian Council of Medical Research) provides Recommended Dietary Allowances (RDA).
b. These requirements are uniform for all individuals, irrespective of age, gender, and activity level.
c. Nutrient requirements are generally lower for pregnant and lactating women.

d. The requirements account for factors like basal metabolic rate and physical activity.

Which of the above statement(s) is/are correct?
(A) a and b only
(B) a and d only
(C) b and c only
(D) c and d only

36. Exclusive breastfeeding is recommended for infants for the first:
(A) Three months of life.
(B) One year of life.
(C) Two months of life.
(D) Six months of life.

37. Which of these techniques falls under 'Dietary Assessment'?
(A) Measuring mid-upper arm circumference.
(B) Checking for pallor in the conjunctiva.
(C) Conducting a 24-hour dietary recall.
(D) Analyzing serum retinol levels.

38. The primary difference between community nutrition and public health nutrition is:
(A) There is no functional difference; the terms are perfectly interchangeable.
(B) Community nutrition includes non-government work; public health is policy-led.
(C) Public health focuses on infections; community nutrition on chronic disease.
(D) Community nutrition deals with animals; public health deals with humans.

39. In the context of research design, what is a primary characteristic of a longitudinal or cohort study?
(A) It studies a specific population group at a single point in time.
(B) It relies primarily on the memory of subjects regarding past exposures.
(C) It involves a controlled intervention with a placebo-controlled group.
(D) It involves the longitudinal follow-up of subjects over a period of time.

40. Match the items in List I with the items in List II.

List I: (Life Cycle Stage)
P. Infancy
Q. Adolescence
R. Pregnancy
S. Old Age

List II: (Primary Nutritional Concern)
1. Increased risk of iron deficiency anemia and body image issues.
2. Meeting needs for rapid growth and brain development.
3. Managing chronic diseases and risk of nutrient deficiencies due to physiological changes.
4. Meeting increased demands for folate, iron, and calcium for fetal development.

(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-3, R-1, S-4
(C) P-4, Q-1, R-2, S-3
(D) P-2, Q-1, R-4, S-3

41. Which of the following is NOT a component of a balanced diet?
(A) Adequate calories
(B) Essential micronutrients
(C) Excessive saturated fats
(D) Sufficient dietary fiber

42. Kwashiorkor, a form of severe acute malnutrition, is primarily caused by:
(A) Severe deficiency of dietary protein with adequate energy intake.
(B) Severe deficiency of both energy and protein.
(C) An excess intake of vitamins.
(D) A deficiency of dietary fat.

43. Which of the following represents a 'clinical' sign of malnutrition?
(A) Low serum albumin.
(B) A diet history showing low intake of fruits.
(C) A Body Mass Index of 22 kg/m^2.
(D) Bitot's spots on the conjunctiva.

44. Which government program in India aims to improve the nutritional status of adolescent girls?
(A) National Goitre Control Programme
(B) Scheme for Adolescent Girls (SAG)
(C) Mid-Day Meal Scheme
(D) Janani Suraksha Yojana

45. The following question consists of two statements — Assertion (A) and Reason (R).

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Answer the question by selecting the appropriate option.
Assertion (A) : Diet counseling should be a client-centered process.
Reason (R) : Lasting behavioral change is more likely when the client is actively involved in setting realistic goals and making decisions about their diet.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

46. During intense physical activity, sports nutrition guidelines recommend athletes consume:
(A) Primarily dietary fats for a source of long-lasting energy.
(B) Large amounts of protein consumed immediately before the event.
(C) Complete avoidance of all food or fluid to prevent stomach cramps.
(D) Consumption of easily digestible carbohydrates and essential fluids.

47. Read the given statements and select the correct option.
Statement I : A research design is a framework or blueprint for conducting a research project.
Statement II : Choosing a research design is independent of the research question.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

48. The growth and development from conception to adolescence is a continuous process marked by:
(A) Uniform nutritional needs throughout.
(B) Varying and critical periods of growth with specific nutritional demands.
(C) A complete stop in development after infancy.
(D) A primary reliance on carbohydrates for growth.

49. Which of the following is a primary objective of public health nutrition interventions?
(A) To market and sell expensive, specialized nutritional supplements.
(B) To prevent disease and promote health at the population level.
(C) To conduct extensive research trials involving only animal subjects.
(D) To focus solely on the dietary habits and health of the wealthy.

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50. Consider the following statements regarding a therapeutic diet for a patient with celiac disease:
a. The diet must be strictly gluten-free.
b. Wheat, barley, and rye must be eliminated.
c. Rice and corn are generally considered safe to consume.
d. The diet is temporary and can be discontinued after a few months.
e. It involves increasing the intake of whole wheat bread.
Which of the above statement(s) is/are correct?
(A) a, b, and e
(B) c, d, and e
(C) a, b, and c
(D) a, d, and e

51. The concept of 'food groups' is used in diet planning to ensure:
(A) The diet is monotonous.
(B) The diet excludes essential fats.
(C) The diet includes variety and nutrient adequacy.
(D) The diet focuses on a single food item.

52. What is the primary function of water as a nutrient in the body?
(A) To provide a secondary source of cellular and metabolic energy.
(B) To facilitate the building and repair of skeletal muscle tissue.
(C) To provide immediate immunity against common viral infections.
(D) To act as a solvent, transport medium, and temperature regulator.

53. Weaning or introduction of complementary foods is a critical nutritional concern during:
(A) Adolescence.
(B) Pregnancy.
(C) Late infancy (around 6 months).
(D) Old age.

54. In the context of disaster management, what is the role of nutritional surveillance?
(A) To distribute food aid randomly without any prior formal assessment.
(B) To identify vulnerable groups and monitor the nutritional situation.
(C) To focus exclusively on improving local sanitation and water hygiene.
(D) To count and record the total number of casualties after the disaster.

55. Consider the following statements regarding the components of food and nutrition security:
a. Availability of sufficient quantities of food.
b. Access by individuals to adequate resources for acquiring appropriate foods.
c. Utilization of food through adequate diet, clean water, and sanitation.
d. Focus only on the production of a single staple crop.
Which of the above statement(s) is/are correct?
(A) a and b only
(B) c and d only
(C) a, b, and c only
(D) a, b, c, and d

56. In nutritional assessment, anthropometric measurements include all of the following EXCEPT:
(A) Serum hemoglobin level
(B) Height
(C) Weight
(D) Mid-upper arm circumference

57. A diet plan for a person with Chronic Kidney Disease (CKD) not on dialysis would typically be:
(A) High in protein, sodium, and potassium.
(B) Unrestricted in all nutrients.
(C) Restricted in protein, sodium, and potassium.
(D) High in fluids and unrestricted in protein.

58. What is the main principle of a 'research design'?
(A) To provide a structured plan for the collection and analysis of data.
(B) To ensure that the research findings are always positive and favorable.
(C) To make the research process as complicated and detailed as possible.
(D) To avoid any standardized form of statistical or qualitative analysis.

59. The initial phase of diet counseling should focus on:
(A) Immediately providing a highly restrictive and detailed meal plan.
(B) Criticizing the client's current eating habits and lifestyle choices.
(C) Selling specific nutritional products and supplements to the client.
(D) Building trust and understanding the client's lifestyle and goals.

60. Match the items in List I with the items in List II.
List I: (Research Term)
P. Hypothesis
Q. Variable
R. Sample
S. Validity
List II: (Definition)
1. A subset of the population selected for a study.
2. The degree to which a research tool measures what it is intended to measure.
3. A testable prediction about the relationship between two or more variables.
4. A characteristic or attribute that can assume different values.
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-1, S-2
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

61. Which food group is placed at the apex (top) of the food pyramid, indicating it should be consumed sparingly?
(A) Fruits and Vegetables
(B) Cereals and Grains
(C) Fats, Oils, and Sweets
(D) Milk and Dairy Products

62. Arrange the following steps of nutritional assessment in the commonly used "ABCD" sequence:
1. Clinical
2. Anthropometric
3. Dietary
4. Biochemical
(A) 2, 4, 3, 1
(B) 1, 2, 3, 4

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(C) 2, 1, 4, 3
(D) 2, 4, 1, 3

63. Read the given statements and select the correct option.
Statement I : Public health nutrition focuses on the health of individuals in a clinical setting.
Statement II : Community nutrition aims to improve the health, nutrition, and well-being of individuals and groups within communities.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

64. Goitre is a visible sign of a deficiency of which nutrient?
(A) Iron
(B) Iodine
(C) Vitamin A
(D) Calcium

65. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : The nutritional requirements during adolescence are significantly higher than in childhood.
Reason (R) : Adolescence is characterized by a rapid growth spurt in height and weight, and development of secondary sexual characteristics, which demands more energy and nutrients.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

66. Which one of these is a key component of nutritional support in emergencies?
(A) General food distribution
(B) Long-term agricultural development
(C) Culinary training programs
(D) Marketing of gourmet foods

67. The Integrated Child Development Services (ICDS) program in India is a major national nutritional intervention primarily targeting:
(A) Elderly individuals residing within isolated rural communities.
(B) School-aged children and adolescents enrolled in primary education.
(C) Pregnant women, lactating mothers, and children under six years.
(D) Adult males residing in densely populated urban metropolitan areas.

68. What is a primary consideration in 'clinical and therapeutic nutrition'?
(A) The taste and presentation of food, regardless of its health impact.
(B) Using dietary interventions for purely aesthetic or cosmetic purposes.
(C) Promoting rapid weight gain in all patients regardless of diagnosis.
(D) Modifying diets to treat or manage a specific medical condition.

69. In research methodology, 'blinding' or 'masking' is used to:
(A) Increase the sample size.
(B) Make the study more difficult to conduct.
(C) Reduce measurement bias.
(D) Ensure all participants receive the same treatment.

70. Consider the following statements regarding nutritional concerns during the life span from conception to adolescence:
a. Folic acid intake during the periconceptional period is crucial.
b. Iron deficiency anemia is a common concern during infancy and adolescence.
c. Energy and nutrient needs decrease progressively from birth to adolescence.
d. Exclusive breastfeeding is sufficient for the first two years of life.
e. Calcium requirements are highest during the adolescent growth spurt.
Which of the above statement(s) is/are correct?
(A) a, b, and e
(B) c, d, and e
(C) a, c, and d
(D) b, d, and e

71. Successful diet management for a chronic condition like diabetes depends heavily on:
(A) The consistent availability of expensive, certified organic foods.
(B) The implementation of a complete ban on

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all social dining events.
(C) The use of unverified magical remedies found in popular media.
(D) The patient's adherence to the prescribed diet and lifestyle changes.

72. What is the definition of a 'micronutrient'?
(A) A nutrient required in small amounts for physiological function.
(B) A nutrient that provides a large amount of dietary energy.
(C) A nutrient that is exclusively found in microscopic organisms.
(D) A nutrient that is considered non-essential for human survival.

73. Pellagra, characterized by dermatitis, diarrhea, and dementia (the "3 Ds"), is caused by a severe deficiency of:
(A) Thiamine (Vitamin B1)
(B) Riboflavin (Vitamin B2)
(C) Niacin (Vitamin B3)
(D) Ascorbic Acid (Vitamin C)

74. The "Food Pyramid" is a tool for:
(A) Communicating the principles of a healthy diet to the public.
(B) Assessing specific nutrient deficiencies in individual patients.
(C) Calculating the exact calorie requirements for healthy adults.
(D) Prescribing specialized therapeutic diets for chronic conditions.

75. Consider the following statements about Sports Nutrition:
a. Proper hydration is critical for performance and safety.
b. Carbohydrates are the primary fuel for high-intensity exercise.
c. Protein intake is important for muscle repair and growth after exercise.
d. Athletes have the same nutritional requirements as sedentary individuals.
Which of the above statement(s) is/are correct?
(A) a, b, and c
(B) b, c, and d
(C) a and d only
(D) b and c only

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76. Read the given statements and select the correct option.
Statement I : The physiological changes during pregnancy, such as increased blood volume, necessitate higher intake of nutrients like iron.
Statement II : The growth and development of the fetus places no extra demand on the mother's nutritional status.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

77. Biochemical assessment of nutritional status involves:
(A) Measuring height and weight.
(B) Observing the hair and skin for abnormalities.
(C) Analyzing levels of nutrients or their metabolites in blood or urine.
(D) Asking a person what they ate in the last 24 hours.

78. The term 'food and nutrition security' implies that all people at all times have:
(A) Access to only high-energy but low-nutrient processed food items.
(B) A government-supplied ration of a single type of agricultural grain.
(C) Immediate and cost-free access to imported luxury food commodities.
(D) Physical and economic access to sufficient, safe, and nutritious food.

79. The most appropriate research design to determine the effectiveness of a new dietary supplement for weight loss would be:
(A) A randomized controlled trial (RCT).
(B) A case report.
(C) A cross-sectional survey.
(D) A qualitative study.

80. Match the items in List I with the items in List II.
List I: (Term)
P. Diet Counseling
Q. Therapeutic Nutrition
R. Public Health Nutrition
S. Sports Nutrition
List II: (Description)
1. Focuses on the nutritional status of a whole

community or population.
2. Provides nutrition education and support for athletic performance.
3. An interactive process to help an individual manage their diet.
4. Diet modification as part of the treatment for a disease.

(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-1, S-2
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

81. A key aspect of managing nutrition in disasters is to provide:
(A) Complex multi-course meals served in a traditional community setting.
(B) Ready-to-use therapeutic foods (RUTF) for malnourished children.
(C) Foods requiring extensive cooking and large amounts of clean water.
(D) Only sweet, high-sugar beverages provided for a source of quick energy.

82. What does 'macro' in macronutrient refer to?
(A) The fact that it is required in large quantities by the body.
(B) The large physical size of the food.
(C) The complex chemical structure of the nutrient.
(D) The high cost of the nutrient.

83. Which statement about the role of nutrients is incorrect?
(A) Proteins are essential for building and repairing tissues.
(B) Carbohydrates are the body's preferred source of energy.
(C) Vitamins provide the main source of calories for the body.
(D) Fats are necessary for insulation and absorption of certain vitamins.

84. A major nutritional concern for school-aged children is:
(A) The significant risk of developing osteoporosis in later adulthood.
(B) The onset of age-related macular degeneration in young populations.
(C) A natural decrease in appetite leading to chronic malnutrition cases.
(D) The balance between energy for growth and the risk of childhood obesity.

85. Which of the following is NOT a goal of a national nutrition policy?
(A) To reduce infant and child mortality rates.
(B) To prevent and control micronutrient deficiencies.
(C) To promote a single foreign dietary pattern for the entire population.
(D) To improve food security at the household level.

86. A case-control study in nutritional epidemiology is a research design that:
(A) Follows a group of healthy people forward through a period of time.
(B) Compares diseased cases to healthy controls to analyze past exposures.
(C) Assigns participants randomly to an intervention or a control group.
(D) Describes the health status of a population at one specific time point.

87. Which of the following pairs of nutrient and its deficiency disease is incorrectly matched?
(A) Vitamin C - Scurvy
(B) Thiamine - Beriberi
(C) Iron - Anemia
(D) Vitamin K - Pellagra

88. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Anthropometric measurements are a key component of nutritional assessment.
Reason (R) : Measurements like height, weight, and body composition are sensitive indicators of nutritional status and can reflect chronic or acute malnutrition.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

89. An effective diet counseling session includes:
(A) The dietitian dictating a strict plan without any client input.
(B) Focusing solely on the client's past failures

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and challenges.
(C) Collaborative goal setting and systematic problem-solving.
(D) Using technical jargon that the average client cannot understand.

90. Consider the following statements regarding clinical and therapeutic nutrition:
a. It involves modifying the consistency of food, such as a pureed diet.
b. It is only used for weight loss.
c. It can involve increasing or decreasing certain nutrients, like a high-protein or low-sodium diet.
d. It is a critical component of managing many chronic and acute diseases.
e. It is identical to general healthy eating guidelines for all individuals.
Which of the above statement(s) is/are correct?
(A) a, c, and d
(B) b, d, and e
(C) a, b, and e
(D) c, d, and e

91. The primary purpose of a 'balanced diet' is to:
(A) Promote rapid and extreme weight loss within a short timeframe.
(B) Include specific foods from only one single primary food group.
(C) Eliminate all dietary fats and carbohydrates from the daily intake.
(D) Provide all necessary nutrients for optimal health and function.

92. The nutrient requirement for an Indian adult female is different from a male of the same age and activity level primarily due to differences in:
(A) Food preferences.
(B) Body composition and basal metabolic rate.
(C) Cultural practices.
(D) Educational level.

93. A public health nutritionist would likely be involved in:
(A) Designing a specialized diet for a single hospitalized patient.
(B) Cooking and preparing meals in a commercial restaurant setting.
(C) Developing a nutrition education campaign for an entire community.
(D) Performing complex surgery to address digestive tract issues.

94. What is a key physiological change during infancy that dictates nutritional needs?
(A) A very slow growth rate compared to other stages of the life cycle.
(B) A fully mature and functional digestive system present from birth.
(C) The ability to consume solid foods from the very first day of life.
(D) Extremely rapid growth and a high relative metabolic rate.

95. Consider the following statements regarding nutritional intervention programmes in India:
a. The Mid-Day Meal scheme provides a cooked meal to school children.
b. The ICDS programme targets only elderly citizens.
c. The Public Distribution System (PDS) aims to provide subsidized food grains.
d. These programs are designed to address issues of food insecurity and malnutrition.
Which of the above statement(s) is/are correct?
(A) a, c, and d
(B) a, b, and c
(C) b, c, and d
(D) a, b, and d

96. The 'A' in the ABCD model of nutritional assessment stands for:
(A) Attitude.
(B) Anthropometric.
(C) Assessment.
(D) Appetite.

97. A renal diet for a patient on hemodialysis often needs to be:
(A) Low in protein and low in potassium for non-dialysis patients.
(B) High in protein with controlled potassium, phosphorus, and fluids.
(C) Unrestricted in total daily fluids and dietary sodium intake.
(D) Low in all essential nutrients to prevent metabolic complications.

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98. Read the given statements and select the correct option.
Statement I : Diet counseling is a one-time event where the dietitian provides all the

information.
Statement II : Effective diet management is an ongoing process that requires follow-up, monitoring, and adjustments.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

99. In research, a 'principle' is a fundamental truth or proposition that serves as the foundation for a system of belief or behavior. A key principle of ethical research is:
(A) Deceiving the participants regarding the true nature of the study.
(B) Ensuring the gathered data always supports the initial hypothesis.
(C) Obtaining signed informed consent from all research participants.
(D) Maximizing the potential risk and discomfort to study participants.

100. The concept of 'nutrition through the life span' highlights that:
(A) Nutritional needs remain static from the time of birth to old age.
(B) Diet in childhood has no significant impact on health in adulthood.
(C) Only pregnant women have truly unique and special nutritional needs.
(D) Nutritional requirements change with development, growth, and aging.

101. Which nutrient's primary role is to facilitate blood clotting?
(A) Vitamin C
(B) Calcium
(C) Vitamin K
(D) Iron

102. An example of a community nutrition initiative is:
(A) A one-on-one diet consultation in a private clinic.
(B) A school-based program promoting fruit and vegetable consumption.
(C) A surgical procedure to correct a digestive issue.
(D) The formulation of a new vitamin pill in a lab.

103. The 'D' in the ABCD of nutritional assessment refers to 'Dietary' methods. Which of the following is a dietary assessment method?
(A) Measuring blood glucose
(B) Skinfold thickness measurement
(C) Checking for edema
(D) Food Frequency Questionnaire

104. Which of the following is the best example of 'diet management'?
(A) Creating a structured meal plan to control dietary sodium intake.
(B) Reading a general nutrition article found in an online publication.
(C) Occasionally choosing a fresh salad for lunch instead of fast food.
(D) Following a friend's diet without obtaining professional guidance.

105. Match the items in List I with the items in List II.
List I: (Vitamin)
P. Vitamin A
Q. Vitamin D
R. Vitamin E
S. Vitamin C
List II: (Key Function)
1. Antioxidant, wound healing, collagen synthesis
2. Vision, immune function
3. Calcium absorption, bone health
4. Antioxidant, protects cell membranes
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-3, R-4, S-1
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-1, R-4, S-3

106. In a research study, what is the 'purpose of research'?
(A) To answer specific questions through systematic investigation.
(B) To prove a personal opinion regardless of the evidence found.
(C) To gather random facts without providing any formal interpretation.
(D) To create confusion and doubt about a previously established topic.

107. The first priority in a nutritional disaster response is to:
(A) Conduct a long-term cohort study on the

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affected population group.
(B) Set up gourmet cooking stations for the displaced individuals.
(C) Provide individual diet counseling to every single affected person.
(D) Ensure access to safe drinking water and adequate food energy.

108. Which statement is incorrect regarding the nutritional needs during physiological changes in the life cycle?
(A) Lactating mothers have increased energy and fluid needs.
(B) Nutritional needs are static and do not change from infancy to adolescence.
(C) Elderly individuals may need fewer calories but have high requirements for certain nutrients like Vitamin D and B12.
(D) Pregnant women require additional iron and folic acid.

109. Which of the following is NOT a macronutrient?
(A) Carbohydrate
(B) Fat
(C) Vitamin C
(D) Protein

110. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : The Mid-Day Meal scheme is an important nutritional intervention in India.
Reason (R) : It aims to improve the nutritional status of school children, increase school enrollment and attendance, and reduce classroom hunger.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

111. A diet low in dietary fiber is a nutritional concern because it can contribute to:
(A) Constipation and increased risk of certain chronic diseases.
(B) Better digestive health.
(C) Improved blood sugar control.
(D) Lower blood cholesterol levels.

112. Arrange the following research steps in the correct chronological sequence:
1. Data Analysis
2. Formulation of Hypothesis
3. Data Collection
4. Research Design
(A) 2, 4, 3, 1
(B) 1, 2, 3, 4
(C) 2, 3, 4, 1
(D) 4, 2, 1, 3

113. From a public health nutrition standpoint, fortifying salt with iodine is an effective strategy because:
(A) It is a very expensive and exclusive process for the government.
(B) It reaches most people without requiring changes in dietary habits.
(C) It only benefits a small, targeted group of vulnerable individuals.
(D) Salt is not widely consumed by the general population of the country.

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114. Glycogen loading is a sports nutrition strategy used by endurance athletes. It involves manipulating:
(A) Carbohydrate intake to maximize glycogen stores in muscles.
(B) Protein and fat intake to increase muscle mass.
(C) Vitamin intake to boost immunity.
(D) Fluid intake to cause dehydration.

115. Consider the following statements about nutritional assessment methods:
a. Anthropometry involves measuring physical dimensions of the body.
b. Biochemical methods analyze nutrient levels in biological samples.
c. Clinical assessment involves checking for physical signs of deficiency.
d. Dietary assessment evaluates food intake.
e. All these methods are used in isolation and never combined.
Which of the above statement(s) is/are correct?
(A) a, c, and e
(B) b, d, and e
(C) a, b, c, and d
(D) a, b, and e

116. A key feature of 'clinical nutrition' is that it is:

(A) Always focused exclusively on achieving rapid weight gain in patients.
(B) The same for all patients, regardless of their specific illness or needs.
(C) Independent of the patient's overall medical treatment and care plan.
(D) Based on evidence and tailored to an individual's medical condition.

117. Read the given statements and select the correct option.
Statement I : The purpose of a 'research design' is to ensure that the evidence obtained enables us to answer the initial question as unambiguously as possible.
Statement II : A poor research design can lead to invalid results and incorrect conclusions.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

118. In diet counseling, the 'management' aspect refers to:
(A) The counselor managing all aspects of the client's daily life.
(B) The client learning skills to self-manage their diet and lifestyle.
(C) The financial management of the professional counseling clinic.
(D) The process of managing food inventory within a large hospital.

119. Beriberi is a disease caused by the deficiency of which B vitamin?
(A) Niacin (B3)
(B) Riboflavin (B2)
(C) Pyridoxine (B6)
(D) Thiamine (B1)

120. Consider the following statements regarding valid nutritional concerns for the elderly population:
a. Decreased absorption of nutrients like calcium and vitamin B12.
b. Increased risk of dehydration due to a diminished sense of thirst.
c. Social factors like isolation and low income affecting food access.
d. Increased energy needs due to a higher metabolic rate.
Which of the above statement(s) is/are correct?
(A) a and d only
(B) d only
(C) a, b, and c only
(D) b and c only

121. The main difference between macro and micro nutrition is:
(A) The source of the nutrient (plant vs. animal).
(B) The time of day the nutrient should be consumed.
(C) The amount required by the body.
(D) The color of the food containing the nutrient.

122. Which of the following best describes 'public health nutrition'?
(A) The science of preventing disease and promoting health in society.
(B) The practice of providing one-on-one dietary advice to celebrities.
(C) The management of large-scale food service within a hospital setting.
(D) The chemical analysis of food components in a specialized laboratory.

123. The 'adolescent growth spurt' increases the demand for which two minerals crucial for bone and blood volume expansion respectively?
(A) Sodium and Potassium
(B) Zinc and Magnesium
(C) Copper and Selenium
(D) Calcium and Iron

124. In the event of a famine or large-scale disaster, what is the most immediate nutritional need to prevent death?
(A) Vitamin A supplements
(B) Provision of sufficient energy and safe water
(C) Iron-fortified flour
(D) High-protein shakes

125. The three pillars of food and nutrition security are:
(A) Production, Export, and Profit.
(B) Availability, Access, and Utilization.
(C) Quality, Quantity, and Cost.
(D) Farming, Cooking, and Eating.

126. A 'food frequency questionnaire' is a tool used in:

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(A) Biochemical assessment.
(B) Clinical assessment.
(C) Anthropometric assessment.
(D) Dietary assessment.

127. A 'diabetic exchange list' is a tool used in diet management for diabetes to help patients:
(A) Substitute foods with a similar effect on blood glucose levels.
(B) Exchange unhealthy foods for healthy ones without any structure.
(C) Trade food items with other diabetic patients in a support group.
(D) Eliminate all carbohydrates from their daily dietary intake plan.

128. What is the fundamental difference between research purpose and research design?
(A) Purpose is 'why' the study is done; design is 'how' it is done.
(B) There is no functional or theoretical difference between the two.
(C) Design is 'why' the study is done; purpose is 'how' it is done.
(D) Purpose relates to data analysis; design relates to the hypothesis.

129. Which of the following is NOT a role of nutrients in the body?
(A) Energy provision
(B) Creation of genetic mutations
(C) Body building and repair
(D) Regulation of metabolic processes

130. Match the items in List I with the items in List II.
List I: (Assessment Method Component)
P. Anthropometric
Q. Biochemical
R. Clinical
S. Dietary
List II: (Example)
1. Pale conjunctiva
2. Waist-to-hip ratio
3. 24-hour dietary recall
4. Serum ferritin level
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-4, R-1, S-3
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-3, R-1, S-4

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131. In diet counseling, empathy is considered important because it:
(A) Allows the counselor to feel sorry for the client's situation.
(B) Is a technique used to make the client feel guilty about choices.
(C) Helps the counselor understand the client and build trust.
(D) Gives the counselor absolute authority over the client's life.

132. Marasmus is a nutritional disorder resulting from a severe deficiency of:
(A) Only protein.
(B) Only Vitamin C.
(C) Iodine.
(D) Both energy (calories) and protein.

133. The concept of 'growth and development from conception to adolescence' implies that:
(A) Nutrition is only important during pregnancy.
(B) An adolescent's diet has no foundation in their childhood eating habits.
(C) Each stage of development has unique and critical nutritional requirements.
(D) Once a child starts school, nutritional needs become stable until adulthood.

134. Which of the following is a primary goal of sports nutrition?
(A) To encourage athletes to lose as much body weight as possible.
(B) To maximize performance, aid recovery, and prevent athletic injury.
(C) To promote the use of banned performance-enhancing drug substances.
(D) To ensure athletes eat the same diet as the general population.

135. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Research in nutrition is crucial for developing evidence-based dietary guidelines.
Reason (R) : Nutritional science is constantly evolving, and research helps to validate or refute existing beliefs about diet and health, leading to more accurate public health recommendations.

(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

136. The 'utilization' component of food security refers to:
(A) The ability to absorb and use nutrients for health and sanitation.
(B) The total ability of a specific country to produce enough food.
(C) A single household's ability to buy and acquire sufficient food.
(D) The export of surplus food items to other international markets.

137. Which statement correctly pairs a life cycle stage with a major nutritional concern?
(A) Infancy - Prevention of osteoporosis.
(B) Old Age - Management of rapid growth spurts.
(C) Adolescence - Body image issues and risk of eating disorders.
(D) Pregnancy - Weaning and introduction of solid foods.

138. In a clinical setting, modifying a diet from solid to a pureed consistency is an example of:
(A) Modifying texture for patients with chewing or swallowing difficulty.
(B) Modifying total nutrient content to meet specific medical needs.
(C) Increasing the caloric density of the patient's daily food intake.
(D) Implementing a specialized diet plan for rapid patient weight loss.

139. Which of the following is a fat-soluble vitamin?
(A) Vitamin C
(B) Vitamin B12
(C) Niacin
(D) Vitamin D

140. Consider the following statements regarding National Nutrition Policies and Programmes:
a. They are designed to tackle malnutrition at a population level.
b. They often employ multi-sectoral approaches involving health, agriculture, and education.
c. ICDS and Mid-Day Meal are examples of such programmes in India.
d. Their sole objective is to increase food exports.
e. They focus only on over-nutrition and obesity.
Which of the above statement(s) is/are correct?
(A) d and e
(B) a, b, and c
(C) a, d, and e
(D) b, c, and d

141. The principle of a 'balanced diet' can be visually communicated through tools like:
(A) A periodic table of elements.
(B) A geographical map.
(C) A food pyramid or MyPlate model.
(D) A financial balance sheet.

142. Read the given statements and select the correct option.
Statement I : Macronutrients are carbohydrates, proteins, and fats.
Statement II : Micronutrients are vitamins and minerals.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

143. Which of the following is an incorrect statement about nutrient deficiencies?
(A) A lack of protein causes rickets.
(B) A lack of dietary iron can cause anemia.
(C) A lack of Vitamin C can lead to scurvy.
(D) A lack of iodine can cause goiter.

144. In public health nutrition, a 'vulnerable group' refers to:
(A) Individuals who are wealthy and have access to all foods.
(B) Segments of the population at higher risk of malnutrition, such as infants, pregnant women, and the elderly.
(C) Professional athletes.
(D) Food critics.

145. Consider the following statements regarding the principles of effective diet counseling:
a. The counselor should be non-judgmental

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and empathetic.
b. The process should be client-centered, involving the client in goal setting.
c. A one-size-fits-all approach is the most efficient and effective method.
d. The goal is to empower the client to make sustainable lifestyle changes.

Which of the above statement(s) is/are correct?
(A) a, b, and d
(B) b, c, and d
(C) a and c only
(D) a, b, c and d

146. A major physiological change in a pregnant woman that influences her nutritional needs is:
(A) A significant increase in basal metabolic rate.
(B) A decrease in blood volume.
(C) A cessation of all digestive processes.
(D) A reduction in body fat stores.

147. A key focus of community nutrition is:
(A) Individualized therapy sessions for patients in a clinical setting.
(B) The treatment and management of rare genetic metabolic disorders.
(C) Prevention of nutritional problems through education and intervention.
(D) High-performance athletic training for professional sports teams.

148. Nutritional rehydration solutions used in emergencies are critical for treating:
(A) Protein deficiency.
(B) Vitamin A deficiency.
(C) Iron deficiency anemia.
(D) Dehydration, often caused by diarrhea.

149. Which of the following is the most direct method for nutritional assessment?
(A) Assessing the country's GDP.
(B) Analyzing the local crop production data.
(C) Measuring the height of a child.
(D) Observing the stock market trends.

150. A diet for a patient who has just undergone major abdominal surgery would likely begin as:
(A) A high-fiber, solid diet.
(B) A clear liquid diet, progressing as tolerated.
(C) A high-fat, fried food diet.
(D) An unrestricted regular diet.

151. What does the term 'nutrient requirements for Indians' refer to?
(A) The dietary guidelines published by the US Department of Agriculture.
(B) A set of recommendations based on traditional European diets.
(C) The nutrient content of fast foods sold in India.
(D) The Recommended Dietary Allowances (RDA) established by the Indian Council of Medical Research (ICMR).

152. In research, a 'cross-sectional design' is one that:
(A) Involves data collection from a population at one specific point in time.
(B) Follows individuals over many years.
(C) Randomly assigns individuals to treatment groups.
(D) Focuses on a single individual in great detail.

153. 'Diet management' is a process that involves:
(A) Simply telling a person to "eat healthy" without specific advice.
(B) Only counting total calories without considering nutrient quality.
(C) Applying nutritional principles to plan a diet for health or therapy.
(D) Following a popular fad diet seen recently on social media platforms.

154. What is the role of protein in sports nutrition?
(A) It is crucial for muscle repair and synthesis after exercise.
(B) It is the main source of energy during a marathon.
(C) It is not considered important for athletes.
(D) It primarily aids in hydration.

155. Match the items in List I with the items in List II.

List I: (Life Stage)
P. Pregnancy
Q. Lactation
R. Old Age
S. Adolescence

List II: (Physiological Change)
1. Decreased BMR, loss of lean mass
2. Rapid growth spurt, hormonal changes
3. Increased blood volume, placental growth
4. Production of breast milk, increased energy

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(A) P-3, Q-4, R-1, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

156. The main purpose of the food group system is to:
(A) Make meal planning more complicated.
(B) Help individuals consume a variety of foods to ensure nutrient adequacy.
(C) Promote the consumption of only one type of food.
(D) Rank foods based on their price.

157. Which nutrient deficiency is the most common cause of preventable brain damage in newborns globally?
(A) Iron
(B) Vitamin A
(C) Iodine
(D) Folic acid

158. Which of the following is NOT a characteristic of a public health nutrition approach?
(A) A focus on the nutritional status of an entire population group.
(B) A strong orientation towards the prevention of chronic disease.
(C) Involvement of the government and broad community participation.
(D) Curative treatment focused on individuals in a private setting.

159. "Colostrum," the first milk produced after delivery, is critically important for the newborn because it is rich in:
(A) Antibodies and immune factors.
(B) Fats and sugars only.
(C) Water.
(D) Iron.

160. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : During a food shortage emergency, general food distribution should prioritize nutrient-dense foods.
Reason (R) : The primary aim is to prevent widespread malnutrition and mortality, and nutrient-dense foods provide more essential vitamins and minerals per calorie compared to empty-calorie foods.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

161. A '24-hour recall' is a technique used in nutritional assessment to gather information about:
(A) The individual's weight history.
(B) The individual's food intake over the previous day.
(C) The individual's blood nutrient levels.
(D) The individual's family medical history.

162. The 'National Nutrition Mission' (POSHAN Abhiyaan) in India primarily aims to:
(A) Reduce stunting, under-nutrition, and anemia in targeted groups.
(B) Promote tourism and international travel within the country.
(C) Increase the export of valuable agricultural spices and herbs.
(D) Build more sports stadiums and recreational facilities in cities.

163. A therapeutic diet for celiac disease requires the strict lifelong avoidance of:
(A) Lactose
(B) Fructose
(C) Gluten
(D) Sodium

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164. Read the given statements and select the correct option.
Statement I : Diet counseling is a process of giving advice.
Statement II : Diet management involves the practical application and planning of dietary changes.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

165. Consider the following statements regarding the fundamental principles of research in nutrition:

a. The research must be based on a clear, testable question.
b. The methodology used must be systematic and rigorous.
c. The findings must be interpreted objectively.
d. The research must adhere to ethical guidelines.
e. The results must always confirm the researcher's initial beliefs.

Which of the above statement(s) is/are correct?
(A) a, b, c, and d
(B) b, c, d, and e
(C) a, c, d, and e
(D) a, b, and e

166. A diet consisting of large quantities of processed foods high in sugar, salt, and unhealthy fats, with minimal intake of fruits and vegetables, would be considered:
(A) A balanced diet.
(B) An unbalanced diet.
(C) A therapeutic diet.
(D) A perfect diet for an athlete.

167. Which of the following is a water-soluble vitamin?
(A) Vitamin A
(B) Vitamin D
(C) Vitamin E
(D) Vitamin C

168. A key difference between community nutrition and clinical nutrition is:
(A) Community nutrition focuses on populations, while clinical nutrition focuses on individuals.
(B) Clinical nutrition is always government-funded, while community nutrition is not.
(C) Community nutrition does not use scientific principles.
(D) There is no difference.

169. What is a primary nutritional concern during childhood?
(A) Preparing for retirement.
(B) Managing menopause symptoms.
(C) Ensuring adequate intake for proper growth and cognitive development.
(D) Preventing age-related sarcopenia.

170. Consider the following statements regarding techniques used in nutritional assessment:
a. Measuring Body Mass Index (BMI).
b. Conducting a food frequency questionnaire.
c. Analyzing serum albumin levels.
d. Checking for physical signs like edema or Bitot's spots.

Which of the above statement(s) is/are correct?
(A) a and b only
(B) c and d only
(C) a, c, and d only
(D) a, b, c, and d

171. A major goal of the Public Distribution System (PDS) in India, as a food-based nutritional intervention, is to:
(A) Provide free meals in restaurants.
(B) Export all of the country's food production.
(C) Promote the cultivation of cash crops over food crops.
(D) Distribute essential food grains at subsidized prices to the poor.

172. A 'DASH diet' is a therapeutic eating plan designed to help treat or prevent:
(A) Celiac disease.
(B) High blood pressure (hypertension).
(C) Lactose intolerance.
(D) Iron deficiency anemia.

173. The 'management' component of diet counseling refers to:
(A) The counselor's management of time during the individual session.
(B) Developing practical strategies and plans to implement changes.
(C) The financial management and accounting of the counseling service.
(D) The authoritative and strict enforcement of a specific diet plan.

174. In nutritional research, a 'hypothesis' is best defined as:
(A) A concluding fact.
(B) The final report of the research.
(C) A summary of existing literature.
(D) A specific, testable prediction about the outcome of the study.

175. Arrange the following food groups in order from the base to the apex of a standard food pyramid:

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1. Fats, Oils, and Sweets
2. Meat, Poultry, Fish, Beans, Eggs, and Nuts
3. Breads, Cereals, Rice, and Pasta
4. Fruits and Vegetables

(A) 3, 4, 2, 1
(B) 1, 2, 4, 3
(C) 3, 2, 4, 1
(D) 4, 3, 2, 1

176. Which one of the following is a role of fat as a nutrient in the body?
(A) It is the primary building block for muscles.
(B) It provides a concentrated source of energy and aids in the absorption of fat-soluble vitamins.
(C) It is the main component of DNA.
(D) It is the primary regulator of blood pH.

177. The term 'nutrition in emergencies' primarily deals with:
(A) Planning menus for luxury cruises.
(B) The nutritional needs of populations affected by natural disasters, conflicts, or famines.
(C) The diet of astronauts in space.
(D) The historical diets of ancient civilizations.

178. 'Stunting' in children, a major focus of national nutrition programmes, is an indicator of chronic malnutrition and is defined as:
(A) Low height for age.
(B) Low weight for height.
(C) Low weight for age.
(D) High BMI for age.

179. Read the given statements and select the correct option.
Statement I : The nutritional needs during adolescence are lower than in childhood due to slower growth.
Statement II : Adolescence is a period of rapid growth and development, second only to infancy, requiring increased energy, protein, vitamins, and minerals.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

180. Which of the following is an example of a qualitative research design in nutrition?
(A) A randomized controlled trial testing a specific vitamin supplement.
(B) A national survey of nutrient intake using a 24-hour dietary recall.
(C) A cohort study tracking the incidence of heart disease over 20 years.
(D) An interview study exploring mothers' beliefs about infant feeding.

181. A 'case study' research design in nutrition involves:
(A) A study of thousands of people across a large, diverse country.
(B) A controlled experiment with a randomized placebo-controlled group.
(C) An in-depth investigation of a single individual, group, or event.
(D) A statistical analysis of past data gathered from multiple studies.

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182. Which of the following is NOT a physiological change during pregnancy that affects nutrition?
(A) Increased maternal blood volume.
(B) A significant decrease in the basal metabolic rate.
(C) Development of the placenta.
(D) Hormonal changes that affect nutrient metabolism.

183. The most important principle in diet management is:
(A) Following the latest fad.
(B) Making the diet as restrictive as possible.
(C) Using a single diet plan for all conditions.
(D) Individualization.

184. Sports nutrition differs from general nutrition guidelines because athletes:
(A) Have higher energy needs and must time nutrient intake carefully.
(B) Do not require any dietary carbohydrates for their performance.
(C) Should focus exclusively on high-protein dietary supplement products.
(D) Are significantly less susceptible to the risks of dehydration.

185. Match the items in List I with the items in List II.
List I: (Term in Nutrition)
P. Balanced Diet

Q. Food Security
R. Therapeutic Diet
S. Nutritional Assessment

List II: (Meaning)

1. A diet modified to meet the needs of a sick individual.
2. The evaluation of a person's nutritional status.
3. A diet containing all nutrients in proper proportions.
4. Access to sufficient, safe, and nutritious food.

(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-1, S-2
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

186. Which food group forms the foundation of a balanced diet, as depicted by the base of the food pyramid?
(A) Cereals and grains.
(B) Fats and oils.
(C) Milk and dairy.
(D) Fruits and vegetables.

187. The term 'RDA' in the context of nutrient requirements for Indians stands for:
(A) Required Daily Amount
(B) Real Dietary Assessment
(C) Regular Diet Action
(D) Recommended Dietary Allowance

188. Which of these is a core activity in public health nutrition?
(A) Performing complex open-heart surgery on hospitalized individuals.
(B) Developing and evaluating population-level nutrition programs.
(C) Managing a commercial restaurant's daily finances and accounts.
(D) Prescribing specific medications for an individual clinic patient.

189. A key nutritional concern during old age is 'sarcopenia', which refers to:
(A) An improvement in bone density.
(B) A sharper sense of taste.
(C) The age-related loss of muscle mass and strength.
(D) An increase in metabolic rate.

190. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : A low-sodium diet is a common therapeutic recommendation for individuals with hypertension.
Reason (R) : High sodium intake can lead to fluid retention and an increase in blood volume, thereby raising blood pressure.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

191. The "B" in the ABCD of nutritional assessment stands for:
(A) Biochemical.
(B) Behavioral.
(C) Body.
(D) Basal.

192. Which of the following is a national nutrition programme in India?
(A) The National Health Service (NHS) of the UK.
(B) The Integrated Child Development Services (ICDS).
(C) The Supplemental Nutrition Assistance Program (SNAP) of the USA.
(D) The World Food Programme (WFP).

193. The purpose of 'diet counseling' is to:
(A) Use authoritative force to make a client follow a specific diet.
(B) Guide a client to make informed decisions about food and lifestyle.
(C) Sell expensive and unnecessary dietary supplements to the client.
(D) Provide a generic, photocopied diet sheet without individualization.

194. Read the given statements and select the correct option.
Statement I : The purpose of research is to prove pre-conceived notions.
Statement II : The purpose of research is to systematically investigate phenomena to discover and interpret facts.

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(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

195. Consider the following statements regarding crucial considerations for the period from conception to adolescence:
a. Maternal nutritional status before and during pregnancy.
b. Exclusive breastfeeding during infancy.
c. Timely introduction of appropriate complementary foods.
d. Meeting the high energy and nutrient demands of the adolescent growth spurt.
e. Nutritional needs remaining constant throughout this entire period.
Which of the above statement(s) is/are correct?
(A) a, b, and e
(B) c, d, and e
(C) a, b, c, and d
(D) a, c, and e

196. The difference between a food allergy and a food intolerance in clinical nutrition is that:
(A) A food intolerance is always life-threatening, while an allergy is not.
(B) There is no difference; the terms are interchangeable.
(C) A food allergy can be cured with diet, but an intolerance cannot.
(D) A food allergy involves the immune system, while an intolerance typically does not.

197. Which of the following is an example of a micronutrient?
(A) Carbohydrate
(B) Protein
(C) Iron
(D) Fat

198. An Indian adult man engaged in heavy physical work will have a higher nutrient requirement for energy compared to a man of the same age engaged in sedentary work. This demonstrates that requirements vary with:
(A) Geographic location
(B) Physical activity level
(C) Educational status
(D) Social class

199. A primary objective of community nutrition interventions is:
(A) Ensuring all community members follow the same exact diet.
(B) Focusing only on rare metabolic diseases.
(C) Maximizing profits for food companies.
(D) Promoting health and preventing disease in specific population groups.

200. Consider the following statements regarding nutrition through the life span:
a. Colostrum is low in antibodies and not beneficial for the newborn.
b. The nutritional needs of an adolescent are the same as those of an elderly person.
c. Sarcopenia, or muscle loss, is a common nutritional concern in old age.
d. Weaning should ideally begin at 2 years of age.
Which of the above statement(s) is/are incorrect?
(A) a, b, and c
(B) a, b, and d
(C) b, c, and d
(D) a, c, and d

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201. In an emergency situation like a flood, a major nutritional concern is:
(A) The lack of gourmet food choices.
(B) The opportunity to start a weight-loss diet.
(C) The contamination of food and water supplies, leading to waterborne diseases.
(D) An oversupply of fresh produce.

202. The "C" in the ABCD of nutritional assessment, which involves looking for physical signs of malnutrition, stands for:
(A) Clinical.
(B) Caloric.
(C) Chemical.
(D) Circumference.

203. The success of a national nutrition policy largely depends on:
(A) The policy being kept a complete secret from the general public.
(B) Focusing exclusively on only one single essential dietary nutrient.
(C) Importing all food products from other developed Western countries.
(D) Multi-sectoral coordination, political will, and adequate funding.

204. Which of the following best describes the role of a diet counselor?
(A) A commander who dictates orders.
(B) A facilitator and educator who empowers clients.
(C) A salesperson for dietary products.
(D) A passive listener with no input.

205. The 'research design' serves as a:
(A) A simple guess about the eventual outcome of the research study.
(B) A detailed summary of the final research findings and results.
(C) A framework for collecting and analyzing data to answer questions.
(D) A significant barrier to conducting any form of ethical research.

206. A key principle of nutrition through the life span is that:
(A) Dietary habits are established only in adulthood.
(B) Only infancy is a period of rapid growth.
(C) The elderly require more calories than adolescents.
(D) Nutritional status during one stage of life can significantly impact health in subsequent stages.

207. Which statement accurately distinguishes sports nutrition from community nutrition?
(A) Sports nutrition is for athletes; community is for population health.
(B) Sports nutrition focuses on malnutrition; community on hydration.
(C) There is no functional difference between these two distinct fields.
(D) Community nutrition is considered a sub-specialty of sports nutrition.

208. In clinical nutrition, a diet for a patient with dysphagia (difficulty swallowing) must be modified in its:
(A) Color
(B) Texture and consistency
(C) Cost
(D) Brand name

209. What is a balanced diet?
(A) A diet that balances sweet and savory foods.
(B) A diet containing nutrients in the correct proportions for health.
(C) A diet where you eat the same amount of food every day.
(D) A diet that contains no fat.

210. Rickets in children is caused by a deficiency of:
(A) Vitamin D and/or Calcium
(B) Vitamin C
(C) Iron
(D) Iodine

211. Public health nutrition programs are often targeted at 'vulnerable groups' because these groups:
(A) Represent the segments of society that are the easiest to reach.
(B) Are the individuals who complain the most about food services.
(C) Have the greatest nutritional needs and highest risk of deficiency.
(D) Represent the segments of society that are politically powerful.

212. Read the given statements and select the correct option.
Statement I : The nutritional requirements for Indians are detailed in the "Nutrient Requirements and Recommended Dietary Allowances for Indians" published by the ICMR-NIN.
Statement II : These requirements are based on international data and do not consider Indian body size, diet, or activity patterns.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

213. Post-exercise nutrition for an athlete should ideally include:
(A) Only water.
(B) A large, high-fat meal.
(C) A combination of carbohydrates to replenish glycogen and protein to repair muscle.
(D) No food for at least 4 hours.

214. The primary principle of research is that it must be:
(A) Quick and easy.
(B) Systematic, objective, and reproducible.
(C) Biased towards a preferred outcome.

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(D) Based on opinions and anecdotes.

215. Match the items in List I with the items in List II.

List I: (Programme)

P. Mid-Day Meal Scheme

Q. Public Distribution System

R. National Iodine Deficiency Disorders Control Programme

S. POSHAN Abhiyaan (National Nutrition Mission)

List II: (Main Objective)

1. To ensure universal consumption of iodized salt.
2. To reduce stunting, undernutrition, and anemia.
3. To provide cooked meals to school children to improve nutritional status and school attendance.
4. To distribute food grains at subsidized rates.

(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-1, S-2
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

216. A key physiological event during adolescence that dramatically increases nutritional needs is the:
(A) Onset of the growth spurt.
(B) Completion of all bone growth.
(C) Decrease in physical activity.
(D) Maturation of the immune system.

217. A major component of 'diet management' in a clinical setting is:
(A) Completely ignoring the patient's individual food and taste preferences.
(B) Providing the exact same standardized diet plan to every single patient.
(C) Translating nutritional science into practical and achievable plans.
(D) Focusing only on pharmaceutical interventions for the medical condition.

218. Which concept is NOT part of food and nutrition security?
(A) Exclusivity.
(B) Availability.
(C) Access.
(D) Utilization.

219. Which of the following is NOT a food group?
(A) Cereals and Grains
(B) Fruits and Vegetables
(C) Proteins (meat, pulses, etc.)
(D) Vitamins and Minerals

220. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.

Assertion (A) : Research design is the first step in the research process.

Reason (R) : A research design must be selected after the research problem is formulated, as the design is essentially a plan to solve that problem.

(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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221. Which nutrient is synonymous with the term "body-building food"?
(A) Carbohydrate
(B) Fat
(C) Protein
(D) Water

222. Which of the following is a primary nutritional concern in a prolonged disaster scenario?
(A) Excess intake of dietary fiber.
(B) Widespread obesity.
(C) Boredom with the available food.
(D) Emergence of micronutrient deficiencies.

223. Anthropometric assessment is a non-invasive and widely used method to assess nutritional status. An example is:
(A) Calculating the Body Mass Index (BMI) from height and weight.
(B) Measuring serum transferrin.
(C) Performing a 24-hour diet recall.
(D) Observing the color of the sclera.

224. 'Nutritional intervention' refers to:
(A) A natural disaster that significantly affects the local food supply.
(B) A program designed to improve the status of a target population.
(C) A professional debate regarding individual

dietary and food preferences.
(D) The biological and chemical process of human food digestion.

225. Consider the following statements regarding a therapeutic diet for a person with Type 2 Diabetes:
a. The diet should be individualized based on the person's needs.
b. It often involves carbohydrate counting or using an exchange system.
c. The main goal is to maintain blood glucose levels as close to normal as possible.
d. It encourages unlimited consumption of sugar and refined grains.
e. It is a temporary diet that can be stopped once blood sugar is normal for a day.
Which of the above statement(s) is/are correct?
(A) a, d, and e
(B) c, d, and e
(C) a, b, and c
(D) b, d, and e

226. The most crucial period for folic acid supplementation to prevent neural tube defects is:
(A) Before conception and in the first trimester of pregnancy.
(B) During adolescence.
(C) In old age.
(D) During the second year of life.

227. In diet counseling, setting 'SMART' goals (Specific, Measurable, Achievable, Relevant, Time-bound) is a key management strategy because it:
(A) Makes the goals vague and extremely difficult for the client to track.
(B) Is a specialized technique used only in professional sports settings.
(C) Provides a clear and actionable plan for the client to monitor.
(D) Ensures the client will eventually fail to meet their stated objectives.

228. Which research design offers the strongest evidence for a cause-and-effect relationship in nutrition?
(A) Cross-sectional study
(B) Case-control study
(C) Case report
(D) Randomized Controlled Trial (RCT)

229. Which of the following is a role of micronutrients?
(A) Providing the bulk of dietary energy.
(B) Forming the main structure of muscles.
(C) Acting as co-factors for enzymes in metabolic pathways.
(D) Being the primary source of dietary fiber.

230. Consider the following aspects regarding 'Community Nutrition':
a. It is primarily focused on prevention of nutritional problems.
b. It addresses the nutritional needs of groups within a community.
c. It can involve activities like health fairs, school health programs, and worksite wellness.
d. It is exclusively concerned with treating severely ill patients in intensive care units.
Which of the above statement(s) is/are correct?
(A) a and d only
(B) d only
(C) a, b, and c only
(D) b and c only

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231. Read the given statements and select the correct option.
Statement I : A balanced diet must exclude all fats.
Statement II : A balanced diet includes adequate amounts of all essential nutrients, including healthy fats, from a variety of food groups.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

232. Iron requirement for Indian women is higher than for men primarily due to:
(A) Menstrual blood losses.
(B) Differences in dietary preferences.
(C) Higher physical activity in women.
(D) Women having a higher BMR.

233. In the context of the life cycle, which group has the highest nutritional need per unit of body weight?
(A) Adults
(B) Elderly

(C) Infants
(D) Adolescents

234. In a public health emergency, 'triage' for nutritional support means:
(A) Prioritizing intensive care for the most severely malnourished first.
(B) Providing everyone with the same amount of food in the population.
(C) Focusing exclusively on the nutritional needs of affected adults.
(D) Distributing food aid based on the previous social status of victims.

235. Arrange the following stages in the management of a new patient for therapeutic nutrition in the correct order:
1. Implementation of the diet plan.
2. Assessment of nutritional status and dietary history.
3. Monitoring and evaluation of the intervention.
4. Formulation of a nutritional diagnosis and diet plan.

(A) 1, 2, 3, 4
(B) 2, 4, 1, 3
(C) 4, 2, 1, 3
(D) 2, 1, 4, 3

236. The 'bioavailability' of a nutrient refers to:
(A) The total amount of the nutrient present in a food.
(B) The proportion of the nutrient that is absorbed and utilized by the body.
(C) The cost of the nutrient.
(D) The shelf life of the food containing the nutrient.

237. The 'objective' of a research study is another term for its:
(A) Conclusion
(B) Design
(C) Purpose
(D) Bias

238. In a diet counseling session, a key step in management is:
(A) To provide a pre-printed diet chart without any individual discussion.
(B) To forbid the client from ever eating any of their favorite foods again.
(C) To end the individual session as quickly and efficiently as possible.
(D) To work with the client to identify barriers and develop solutions.

239. The term "empty calories" in nutrition refers to foods that:
(A) Provide calories from sugar and fat with few other nutrients.
(B) Represent food items that are naturally very low in total calories.
(C) Represent food items that are physically hollow in the middle.
(D) Are rich in essential vitamins, minerals, and dietary fiber sources.

240. Which statement is incorrect regarding clinical nutrition?
(A) It plays a vital role in supporting medical treatment.
(B) It is the same as general healthy eating advice for the public.
(C) It can involve parenteral or enteral feeding.
(D) It requires a thorough assessment of the patient's condition.

241. What is the role of fats/oils in a balanced diet?
(A) They have no role and should be completely avoided.
(B) They provide a concentrated source of energy, essential fatty acids, and help absorb fat-soluble vitamins.
(C) They are the primary source for building muscle.
(D) They are only needed for regulating body temperature.

242. Which of these is a correct pairing of a nutrient and its role?
(A) Carbohydrate - Primary energy source
(B) Calcium - Energy production
(C) Protein - Vision
(D) Vitamin K - Brain development

243. The focus of public health nutrition is on:
(A) The individual patient
(B) The food industry
(C) The population
(D) The hospital

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244. A key 'nutrition concern' during pregnancy is ensuring adequate intake of iron to prevent:
(A) Gestational diabetes.
(B) High blood pressure.
(C) Morning sickness.
(D) Maternal and fetal anemia.

245. In sports nutrition, the term 'hitting the wall' refers to a state of:
(A) Extreme dehydration.
(B) Muscle cramps from electrolyte imbalance.
(C) Depletion of muscle glycogen stores leading to fatigue.
(D) Over-hydration.

246. Which nutritional assessment technique is subjective and relies on an individual's memory?
(A) Measuring height
(B) 24-hour dietary recall
(C) Analyzing serum albumin
(D) Measuring skinfold thickness

247. The 'access' dimension of food and nutrition security refers to:
(A) The total amount of food available in a country.
(B) The biological use of food by the body.
(C) The taste and quality of the food.
(D) The ability of households and individuals to acquire sufficient food.

248. The DASH (Dietary Approaches to Stop Hypertension) diet is an example of:
(A) Clinical and therapeutic nutrition
(B) Community nutrition
(C) Sports nutrition
(D) Emergency nutrition

249. Read the given statements and select the correct option.
Statement I : Diet counseling is an authoritarian process where the counselor dictates a plan.
Statement II : Effective diet counseling is a collaborative partnership between the counselor and the client.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

250. The very first step in conducting research is:
(A) Formulating a research question or identifying a problem.
(B) Data analysis.
(C) Publishing the results.
(D) Designing the experiment.

Direction : Please read the following source carefully.

The foundational principles of dietetics revolve around the systematic organization of foods into distinct groups, which serves as the basis for constructing a balanced diet. A balanced diet is one that furnishes the body with all essential nutrients in the correct proportions to maintain health, support growth, and ensure optimal physiological function. This conceptual framework is often visualized through a food pyramid, a graphic representation that guides dietary choices by illustrating the recommended intake proportions for different food groups. The base of the pyramid typically includes foods like cereals and grains, which should form the largest part of the diet, while the apex contains fats, oils, and sweets, which are to be consumed sparingly. Central to this model is the distinction between macronutrients and micronutrients. Macronutrients, comprising carbohydrates, proteins, and fats, are required in relatively large quantities, primarily to supply energy and provide building blocks for bodily structures. Conversely, micronutrients, which include vitamins and minerals, are needed in much smaller amounts. Despite their smaller requirement, micronutrients are indispensable for regulating a vast array of metabolic processes, acting as cofactors and coenzymes in biochemical reactions that sustain life.

Based on the above source, attempt the following five questions.

251. What is the primary function of a food pyramid as described in the paragraph?
(A) To mandate the exclusion of fats and sweets from the diet.
(B) To provide a visual guide for proportional consumption of food groups.
(C) To list all available foods in a geographical region.
(D) To calculate the exact caloric content of a meal plan.

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252. According to the passage, what is the key difference between macronutrients and micronutrients?
(A) The quantity required by the body and their primary physiological role.
(B) The source from which they are derived, whether plant or animal.
(C) Their solubility in water versus their solubility in fat.
(D) Their presence in the base versus the apex of the food pyramid.

253. Based on the text, which of the following best defines a balanced diet?
(A) A diet consisting exclusively of foods from the base of the food pyramid.
(B) A diet that prioritizes micronutrients over macronutrients for metabolic regulation.
(C) A diet that supplies essential nutrients in appropriate proportions for health.
(D) A diet designed for the sole purpose of providing energy.

254. It can be inferred from the passage that a diet lacking in vitamins and minerals would most likely lead to:
(A) an immediate decrease in body mass and structure.
(B) a surplus of energy leading to weight gain.
(C) an overproduction of structural building blocks in the body.
(D) an impaired ability to regulate metabolic processes.

255. If a dietitian advises a client to increase consumption of foods from the base of the food pyramid, what is the most likely dietary change being recommended?
(A) Consuming more fats, oils, and sweets.
(B) Increasing the intake of vitamins and minerals.
(C) Adding more cereals and grains to the daily diet.
(D) Prioritizing protein-rich foods over all others.

Direction : Please read the following source carefully.

The functional roles of nutrients within the human body are diverse and specific, forming the scientific basis for dietary recommendations. Macronutrients such as carbohydrates are the primary source of metabolic fuel, providing the energy required for all cellular activities. Proteins serve a more structural and functional purpose, acting as the fundamental building blocks for tissues, muscles, and organs, while also functioning as enzymes and antibodies. Fats are a concentrated energy source, essential for the absorption of fat-soluble vitamins and the synthesis of critical hormones. Beyond these, micronutrients, though required in smaller amounts, play indispensable roles. Vitamins often act as coenzymes, facilitating enzymatic reactions, while minerals are crucial for nerve transmission, bone structure, and fluid balance. When the intake of these nutrients is inadequate, nutrient deficiencies arise, leading to a spectrum of health issues. The specific requirements for these nutrients are not uniform globally; for instance, nutrient requirements for Indians are established considering factors unique to the population, such as typical dietary patterns, genetic predispositions, environmental conditions, and prevalent health statistics. These tailored recommendations are crucial for developing effective public health strategies and preventing widespread nutritional deficiencies within the Indian context.

Based on the above source, attempt the following five questions.

256. According to the passage, which nutrient class primarily serves as the body's main source of metabolic energy?
(A) Proteins
(B) Carbohydrates
(C) Fats
(D) Vitamins

257. The text suggests that establishing specific nutrient requirements for Indians is necessary primarily because:
(A) Indian dietary patterns are nutritionally superior to others.
(B) global nutrient recommendations are universally inaccurate.
(C) micronutrient deficiencies are not a concern in India.
(D) nutrient needs are influenced by population-specific factors.

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258. Based on the description, a deficiency in which nutrient would most directly impact the body's ability to build and repair tissues?
(A) Proteins
(B) Carbohydrates
(C) Minerals
(D) Fats

259. What can be inferred about the role of vitamins from the passage?
(A) They are a major source of concentrated energy for the body.
(B) They are primarily involved in providing structure to bones.
(C) They are essential for facilitating key biochemical reactions.
(D) They are required in large quantities, similar to carbohydrates.

260. A public health program aiming to improve hormone synthesis and absorption of certain vitamins in a population would likely focus on promoting adequate intake of which nutrient?
(A) Fats
(B) Minerals
(C) Proteins
(D) Carbohydrates

Direction : Please read the following source carefully.

Public health nutrition is a distinct discipline that applies nutritional science to promote health and prevent disease within populations and communities. Unlike clinical nutrition, which typically focuses on individual patient care, public health nutrition adopts a broader, population-level perspective. Its primary objective is to assess the nutritional status and identify the determinants of nutrition-related problems across groups, which may range from small communities to entire nations. This involves the systematic collection and analysis of data on dietary intake, nutritional status indicators, and the prevalence of conditions like malnutrition, obesity, and micronutrient deficiencies. Based on these assessments, the field is responsible for the development and implementation of evidence-based policies and programs. These interventions are designed to create environments that support healthy eating and active living for all. The approach is fundamentally preventive, seeking to address the root causes of poor nutrition through large-scale initiatives such as food fortification, public awareness campaigns, and policies that improve food accessibility. Ultimately, public health nutrition aims to achieve sustained improvements in population health and well-being by translating scientific knowledge into effective, collective community action and public policy.

Based on the above source, attempt the following five questions.

261. What is the fundamental distinction between public health nutrition and clinical nutrition as described in the text?
(A) Public health nutrition is concerned with treatment, while clinical nutrition is concerned with prevention.
(B) Public health nutrition uses scientific data, whereas clinical nutrition relies on anecdotal evidence.
(C) Public health nutrition deals only with malnutrition, while clinical nutrition deals with obesity.
(D) Public health nutrition focuses on populations, while clinical nutrition focuses on individuals.

262. According to the passage, the first step in developing a public health nutrition intervention is typically:
(A) implementing a food fortification program.
(B) assessing the nutritional problems within a population.
(C) launching a public awareness campaign.
(D) translating scientific knowledge into policy.

263. Which of the following best exemplifies the preventive approach of public health nutrition?
(A) Prescribing a therapeutic diet for a diabetic patient.
(B) Performing surgery to address complications of obesity.
(C) Developing a national policy to fortify salt with iodine to prevent goiter.
(D) Counseling an individual on weight loss strategies.

264. It can be inferred from the passage that the success of public health nutrition initiatives depends heavily on:

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(A) the exclusive use of individual dietary counseling.
(B) a singular focus on treating micronutrient deficiencies.
(C) the profitability of the interventions implemented.
(D) the ability to influence policy and foster community action.

265. The ultimate goal of public health nutrition, as stated in the source, is to:
(A) achieve long-term improvements in the health of entire populations.
(B) ensure every individual receives a personalized diet plan.
(C) eliminate all forms of nutrition-related diseases immediately.
(D) document the dietary habits of various communities for academic purposes.

Direction : Please read the following source carefully.

Nutrition through the life span is a critical area of dietetics that acknowledges the dynamic nature of nutritional needs in response to physiological changes, growth, and development. This continuum begins even before birth, as the nutritional status of the mother during conception and throughout pregnancy profoundly influences fetal growth and long-term health outcomes. The subsequent stage of infancy is characterized by the most rapid growth rate in the human life cycle, a period where breast milk or a suitable infant formula is paramount for providing complete nutrition. As a child transitions into early childhood, dietary diversification becomes crucial for meeting increasing energy demands and preventing nutrient deficiencies, while also establishing foundational eating patterns. The onset of adolescence marks another significant phase, defined by a dramatic growth spurt, sexual maturation, and significant hormonal shifts. This period necessitates a substantial increase in the requirements for energy, protein, and key minerals like calcium for bone development and iron to support expanding blood volume, particularly in females. Dietary guidelines are specifically tailored for each of these life stages to ensure adequate nutrition is provided, while also addressing common nutritional concerns pertinent to each phase, such as iron-deficiency anemia in adolescents or protein-energy malnutrition in young children.

Based on the above source, attempt the following five questions.

266. According to the passage, which life stage is characterized by the most rapid rate of growth?
(A) Adolescence
(B) Infancy
(C) Early childhood
(D) Pregnancy

267. The text emphasizes that the nutritional needs of an adolescent are significantly increased due to:
(A) the establishment of foundational eating patterns.
(B) a period of intense growth and hormonal changes.
(C) a reliance on breast milk or infant formula.
(D) the initial diversification of the diet.

268. What can be inferred about the importance of maternal nutrition during conception and pregnancy?
(A) It has a significant and lasting impact on the developing fetus.
(B) It only affects the mother's health and well-being.
(C) It is less critical than nutrition during infancy.
(D) Its main purpose is to prevent iron-deficiency anemia in the mother.

269. A key nutritional strategy during the transition from infancy to early childhood, as mentioned in the text, is:
(A) maintaining an exclusive diet of breast milk.
(B) increasing calcium intake for the growth spurt.
(C) introducing a variety of new foods.
(D) reducing overall energy consumption.

270. Based on the passage, a public health program targeting anemia in teenagers would be addressing a nutritional concern specific to which life stage?
(A) Infancy
(B) Early childhood
(C) Conception
(D) Adolescence

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Direction : Please read the following source carefully.

Nutrition science encompasses several specialized fields, each tailored to the unique needs of specific populations or situations. Community nutrition focuses on applying nutritional principles to groups of people who share a common locality, language, or culture. It involves identifying local nutritional problems and developing and managing grassroots programs to address them, often in collaboration with local agencies. In contrast, sports nutrition is a highly individualized field centered on enhancing the athletic performance, recovery, and health of athletes. Practitioners of sports nutrition provide guidance on optimizing intake of energy, macronutrients, and fluids, often involving precise strategies around nutrient timing relative to training and competition. A third distinct area is nutrition in emergencies and disasters, a critical humanitarian response. This field addresses the immediate nutritional needs of populations affected by crises such as natural disasters, famines, or conflicts. The primary objective is to prevent death and illness resulting from malnutrition. Key activities include rapid nutritional assessments to identify the most vulnerable, management of acute malnutrition through therapeutic feeding programs, and ensuring the provision of a general food ration that is safe, culturally appropriate, and nutritionally adequate to sustain life in highly unstable environments.

Based on the above source, attempt the following five questions.

271. Which field of nutrition is primarily concerned with enhancing the performance and recovery of athletes?
(A) Community nutrition
(B) Nutrition in emergencies
(C) Sports nutrition
(D) Public health nutrition

272. A nutritionist working to establish a supplementary feeding program for children in a specific village is most likely practicing:
(A) sports nutrition.
(B) community nutrition.
(C) clinical nutrition.
(D) disaster nutrition.

273. According to the passage, a key objective of nutrition in emergencies and disasters is to:
(A) improve the long-term athletic potential of a population.
(B) develop new grassroots programs for local agencies.
(C) provide guidance on nutrient timing for optimal health.
(D) prevent immediate mortality and morbidity from malnutrition.

274. What is a defining characteristic that differentiates sports nutrition from community nutrition as described in the text?
(A) Sports nutrition is often highly individualized, while community nutrition is group-focused.
(B) Sports nutrition is group-focused, while community nutrition is individualized.
(C) Sports nutrition deals with disasters, while community nutrition deals with athletes.
(D) Sports nutrition focuses on malnutrition, while community nutrition focuses on performance.

275. Based on the passage, an activity such as a rapid assessment to identify children with severe acute malnutrition after a flood would fall under the purview of:
(A) sports nutrition.
(B) community nutrition program planning.
(C) nutrition in emergencies and disasters.
(D) general community health awareness.

Direction : Please read the following source carefully.

A comprehensive nutritional assessment is essential for accurately diagnosing the nutritional status of an individual or a community. This evaluation is not based on a single parameter but rather integrates findings from multiple methods and techniques. The core components are often summarized by the 'ABCD' model. 'A' stands for anthropometric measurements, which are quantitative measures of the body's physical dimensions. These include height, weight, Body Mass Index (BMI), waist-to-hip ratio, and skinfold thickness, which help in assessing growth patterns and body composition. 'B' refers to biochemical or laboratory methods, involving the analysis of samples like blood or urine to measure specific

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nutrient concentrations or functions, such as serum albumin for protein status or hemoglobin for iron status. 'C' represents clinical assessment, which is a physical examination conducted by a trained professional to detect visible signs and symptoms associated with nutrient deficiencies or toxicities, like pale conjunctiva for anemia or Bitot's spots for vitamin A deficiency. Finally, 'D' denotes dietary assessment, which uses various techniques like 24-hour dietary recalls, food frequency questionnaires, or detailed diet histories to estimate an individual's food and nutrient intake. For a conclusive diagnosis, information from all these methods must be collectively interpreted.

Based on the above source, attempt the following five questions.

276. Measuring a patient's serum albumin level to evaluate their protein status is an example of which nutritional assessment method?
(A) Biochemical
(B) Anthropometric
(C) Clinical
(D) Dietary

277. According to the passage, which method involves a physical examination for visible signs of malnutrition?
(A) Anthropometric assessment
(B) Biochemical assessment
(C) Dietary assessment
(D) Clinical assessment

278. The use of a 24-hour dietary recall or a food frequency questionnaire falls under which category of nutritional assessment?
(A) Anthropometry
(B) Dietary methods
(C) Biochemistry
(D) Clinical evaluation

279. What can be inferred from the text about the reliability of a nutritional assessment?
(A) A single method, like BMI, is sufficient for a complete diagnosis.
(B) Dietary assessment is the most accurate and important method.
(C) A conclusive diagnosis is best achieved by integrating multiple assessment methods.
(D) Clinical signs are the first indicators to appear in cases of deficiency.

280. A health worker measuring the height, weight, and mid-upper arm circumference of children in a village is conducting what type of assessment?
(A) A biochemical survey
(B) A clinical examination
(C) A dietary history analysis
(D) An anthropometric assessment

Direction : Please read the following source carefully.

Nutritional interventions are systematic, planned activities designed to address and improve nutrition-related problems within a population. These actions are often guided by overarching national nutrition policies, which set the strategic direction and priorities for a country. In the Indian context, several large-scale programmes serve as prominent examples of such interventions. The Integrated Child Development Services (ICDS) scheme, for instance, provides a package of services including supplementary nutrition, health check-ups, and pre-school education to young children and mothers. Similarly, the Mid-Day Meal Scheme aims to improve the nutritional status of school-aged children while also encouraging school attendance. These interventions are intrinsically linked to the concepts of food and nutrition security. Food security is generally understood as having reliable physical and economic access to a sufficient quantity of affordable, safe, and nutritious food. However, nutrition security is a broader concept. It encompasses not only the food security pillar of access but also requires adequate sanitation, access to quality health services, and appropriate care and feeding practices. This ensures that the consumed food is effectively utilized by the body to achieve and maintain a state of health and well-being, thus completing the pathway from food access to positive nutritional outcomes.

Based on the above source, attempt the following five questions.

281. What is the primary purpose of a national nutrition policy as described in the passage?
(A) To set the strategic direction for nutritional interventions.
(B) To directly provide food to every citizen.
(C) To exclusively monitor the Mid-Day Meal

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Scheme.
(D) To define the concept of food security.

282. According to the text, which of the following is an example of a large-scale nutritional intervention programme in India?
(A) The National Food Security Act
(B) The Integrated Child Development Services (ICDS)
(C) The National Health Mission
(D) The Swachh Bharat Mission

283. How does the concept of nutrition security differ from food security, according to the source?
(A) Nutrition security is only about economic access to food.
(B) Nutrition security includes factors like sanitation and healthcare for food utilization.
(C) Nutrition security is a narrower concept focusing only on infants.
(D) Food security is concerned with health services, while nutrition security is not.

284. It can be inferred that the Mid-Day Meal Scheme has a dual objective, which includes improving nutrition and:
(A) encouraging school enrollment and attendance.
(B) providing employment to cooks.
(C) promoting pre-school education.
(D) distributing supplementary nutrition to mothers.

285. A community has consistent access to sufficient food, but high rates of childhood malnutrition persist due to poor hygiene and frequent infections. This situation represents a lack of:
(A) food security.
(B) food availability.
(C) nutrition security.
(D) nutritional intervention.

Direction : Please read the following source carefully.

Clinical and therapeutic nutrition is a specialized branch of dietetics that focuses on the nutritional management of patients with specific diseases or health conditions. It operates on the principle of modifying a normal, healthy diet to meet the altered physiological and metabolic demands imposed by an illness. This practice, commonly referred to as Medical Nutrition Therapy (MNT), is a critical, evidence-based component of comprehensive patient care. The primary objectives of a therapeutic diet are multifaceted: it may aim to correct existing nutritional deficiencies, help maintain or improve a patient's current nutritional status, or manage the symptoms and progression of a disease. For example, in managing diabetes mellitus, the diet is modified to control blood glucose levels. For a patient with renal failure, protein, sodium, potassium, and fluid intake may be strictly regulated. The process involves a registered dietitian conducting a thorough nutritional assessment and then developing a highly personalized nutrition plan based on the patient's medical diagnosis, history, and individual needs. The prescribed diet can be modified in terms of its energy content, macronutrient and micronutrient composition, texture, or consistency to support medical treatment and facilitate better health outcomes.
Based on the above source, attempt the following five questions.

286. What is the core principle of clinical and therapeutic nutrition?
(A) Providing a standard diet to all patients regardless of their condition.
(B) Focusing exclusively on correcting nutritional deficiencies.
(C) Using nutritional supplements as the primary form of treatment.
(D) Modifying a normal diet to meet specific needs related to a disease.

287. The term "Medical Nutrition Therapy (MNT)" is described in the passage as:
(A) a generic diet plan for healthy individuals.
(B) an alternative to conventional medical treatment.
(C) an evidence-based approach to nutritional management of disease.
(D) a surgical procedure to correct malnutrition.

288. According to the text, a therapeutic diet for a patient with renal failure would likely involve regulating the intake of:
(A) only carbohydrates and fats.
(B) protein, certain minerals, and fluid.
(C) only vitamins and fiber.

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(D) all nutrients without any restriction.

289. It can be inferred that the first step a dietitian takes when developing a therapeutic diet is to:
(A) immediately restrict the patient's fluid intake.
(B) provide a standard pre-written diet chart.
(C) recommend a specific brand of multivitamin.
(D) conduct a comprehensive nutritional assessment.

290. A dietitian creating a pureed diet for a patient with difficulty swallowing is applying a modification based on which dietary characteristic?
(A) Texture and consistency
(B) Energy content
(C) Protein composition
(D) Mineral balance

Direction : Please read the following source carefully.

Diet counseling and management represent a crucial application of dietetic knowledge, focusing on facilitating voluntary lifestyle and behavioral changes in clients. This process extends far beyond the mere provision of a diet chart; it is a collaborative, client-centered interaction. Effective counseling involves a blend of communication, education, and motivational interviewing to empower individuals. The management aspect involves a structured approach to this process, which includes collaboratively setting realistic and achievable goals, systematically monitoring the client's progress, and providing continuous support to navigate challenges. A key component in the management of dietary change is the use of behavioral modification techniques. These strategies help clients to identify personal triggers and barriers that hinder adherence to a healthy diet and develop practical coping mechanisms. The dietitian's role is not that of a director, but a facilitator who equips the client with the necessary knowledge, skills, and self-confidence to make informed and sustainable choices. The ultimate aim of diet counseling and management is to successfully translate abstract nutritional principles into tangible, everyday eating habits that are both acceptable to the client's lifestyle and effective in improving their health.

Based on the above source, attempt the following five questions.

291. What is the fundamental nature of diet counseling as described in the passage?
(A) A prescriptive and directive process.
(B) A one-time delivery of a diet plan.
(C) A collaborative and client-centered interaction.
(D) A process focused solely on monitoring weight.

292. The "management" aspect of diet counseling primarily involves:
(A) setting goals, monitoring progress, and providing support.
(B) punishing clients for not following the diet.
(C) providing generic nutritional information.
(D) selling nutritional products to the client.

293. According to the text, what is the purpose of using behavioral modification techniques in diet counseling?
(A) To force clients to change their habits immediately.
(B) To educate clients about the biochemical pathways of nutrients.
(C) To create a standardized diet plan for all clients.
(D) To help clients identify and overcome barriers to healthy eating.

294. The passage suggests that the role of the dietitian in counseling is best described as a:
(A) strict instructor.
(B) supportive facilitator.
(C) passive observer.
(D) medical doctor.

295. What is the ultimate objective of the diet counseling and management process?
(A) To ensure the client memorizes all food groups.
(B) To have the client follow a rigid diet chart for life.
(C) To enable clients to make sustainable and practical dietary changes.
(D) To prove the superiority of one diet over another.

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Direction : Please read the following source carefully.

Research serves as the fundamental pillar supporting evidence-based practice in the fields

of nutrition and dietetics. The primary purpose of conducting research is to systematically investigate specific questions to generate new knowledge, challenge or validate existing theories, and ultimately inform professional practice and public health policy. For research findings to be credible, they must be built upon core principles, including objectivity, which minimizes bias; reliability, ensuring consistency of results; and validity, confirming that the study measures what it intends to measure. The choice of research design is critical and is determined by the nature of the research question. Observational research designs, such as cross-sectional or cohort studies, are powerful tools for identifying potential associations between dietary factors and health outcomes in populations. For instance, a cohort study might follow a group over time to see if a certain dietary pattern is linked to a lower risk of heart disease. In contrast, experimental designs, most notably the randomized controlled trial (RCT), are considered the gold standard for establishing cause-and-effect relationships. In an RCT, participants are randomly assigned to an intervention or control group to test the direct impact of a specific nutritional intervention, thereby providing strong evidence for its efficacy.
Based on the above source, attempt the following five questions.

296. According to the passage, what is the main purpose of research in nutrition and dietetics?
(A) To create complicated dietary guidelines.
(B) To promote specific food products.
(C) To prove that all existing theories are incorrect.
(D) To systematically generate and validate knowledge for practice and policy.

297. Which research principle ensures that a study consistently produces similar results under identical conditions?
(A) Reliability
(B) Objectivity
(C) Validity
(D) Subjectivity

298. The text describes which type of research design as the "gold standard" for determining cause-and-effect relationships?
(A) Cross-sectional study
(B) Randomized controlled trial
(C) Cohort study
(D) Observational study

299. A researcher wants to study the relationship between vitamin D intake and bone density in a group of 5,000 adults at a single point in time. This is an example of which research design?
(A) A randomized controlled trial
(B) A cross-sectional study
(C) An experimental design
(D) A cohort study

300. Based on the passage, what is the key difference between observational and experimental research designs?
(A) Observational studies identify associations, while experimental studies test interventions to establish causality.
(B) Observational studies establish cause-and-effect, while experimental studies identify associations.
(C) Observational studies are not based on principles, while experimental studies are.
(D) Observational studies are always short-term, while experimental studies are always long-term.

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ANSWERS

1. (B) A nutritionally complete diet providing essential nutrients in the correct proportions.
A balanced diet includes all essential nutrients required for the human body to function optimally. It provides proteins, carbohydrates, fats, vitamins, and minerals in specific proportions tailored to individual needs. Maintaining such a diet ensures overall health, prevents deficiencies, and supports development. It is not about restriction but achieving a harmonious intake of various food groups to maintain long-term physiological well-being and consistent daily energy levels.

2. (A) To optimize the health and nutritional status of entire populations.
Public health nutrition focuses on improving the health outcomes and nutritional status of the general public rather than individuals. It involves large-scale interventions, policy development, and educational programs aimed at preventing disease across communities. By addressing systemic issues like food accessibility and nutritional education, it seeks to reduce the prevalence of both undernutrition and overnutrition, ensuring better health outcomes for all diverse segments of the population.

3. (C) Folic Acid
Folic acid is a critical B-vitamin essential for DNA synthesis and cellular growth during early fetal development. Increased intake before and during the initial stages of pregnancy significantly reduces the risk of neural tube defects like spina bifida. Health professionals recommend supplementation for women of childbearing age because the neural tube closes very early in gestation, often before a pregnancy is confirmed by standard medical testing.

4. (D) Financial audit
Nutritional assessment involves standardized methods to evaluate an individual's health status. Anthropometric measurements, biochemical tests, and clinical examinations provide data on body composition, nutrient levels, and physical symptoms of deficiency. Financial audits, while useful for business management, do not provide any clinical or biological information regarding nutritional health. Comprehensive assessments typically combine dietary history with physical data to form a complete and accurate picture of individual health.

5. (A) P-4, Q-1, R-2, S-3
Nutritional health depends on adequate intake of various vitamins and minerals to prevent specific deficiency diseases. Iodine deficiency leads to the formation of a goitre due to thyroid enlargement. Lack of Vitamin C results in scurvy, characterized by bleeding gums. Niacin deficiency causes pellagra, while insufficient Vitamin D leads to rickets in children. Identifying these relationships is fundamental for diagnosing and treating clinical nutritional disorders in patients.

6. (B) Protein
Macronutrients are essential components of the human diet required in relatively large quantities to provide energy and maintain structural integrity. This category includes proteins, carbohydrates, and fats. Proteins are particularly vital for the growth, repair, and maintenance of all body tissues and organs. In contrast, micronutrients such as iron, zinc, and vitamins are needed in much smaller amounts but are equally necessary for maintaining metabolic functions.

(A) Both Statement I and Statement II are true.
Diet counseling is a professional interactive process where individuals receive tailored advice to improve their nutritional health. This personalized guidance helps people navigate complex dietary choices. Simultaneously, diet management involves the systematic modification of food habits to achieve specific health goals or manage medical conditions. Together, these practices facilitate sustainable behavioral changes and long-term health improvements by addressing both the educational and practical aspects of human nutrition.

8. (B) b, c, and e

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Community nutrition centers on improving the health and well-being of specific populations and subgroups within society. It utilizes public health initiatives and government-sponsored programs to address nutritional challenges on a broad scale. The primary goal is the prevention of nutritional deficiencies and related health issues through education and resource distribution. This field differs from clinical nutrition as it prioritizes population-level outcomes and preventive measures rather than individual patient care.

9. (C) To generate new knowledge, validate practices, and solve health problems.
Research in nutrition and dietetics serves as the foundation for evidence-based practice and policy development. It systematically explores dietary patterns, metabolic processes, and health outcomes to generate new scientific knowledge. By validating existing practices and investigating solutions for health problems, research ensures that nutritional recommendations remain accurate and effective. This continuous process of inquiry is essential for advancing the field and improving clinical outcomes for diverse population groups.

10. (A) Both A and R are true and R is the correct explanation of A.
During nutritional emergencies, providing energy-dense foods and maintaining hydration are the most immediate priorities to prevent mortality. Disasters often cause significant physical and emotional stress, which elevates metabolic rates and increases the body's demand for energy and fluids. Furthermore, the risk of infections during such crises further necessitates adequate nutritional support to maintain immunity and facilitate recovery. Addressing these physiological needs promptly is critical for human survival.

11. (D) The physical, social, and economic access to sufficient and safe food.
Food security exists when all people at all times have physical, social, and economic access to sufficient, safe, and nutritious food. This access ensures that individuals can meet their dietary needs and food preferences for an active and healthy life. It encompasses availability, accessibility, and the proper utilization of food resources. Achieving food security is a major global goal aimed at eliminating hunger and improving overall public health.

12. (A) 3, 2, 4, 1
The human life cycle follows a specific chronological sequence beginning with the prenatal period from conception to birth. Following birth, infancy represents the first stage of postnatal growth, which then transitions into childhood. Adolescence is the subsequent period marked by rapid physical development and maturation before reaching adulthood. Understanding these stages is essential for identifying the unique nutritional and physiological requirements necessary at each phase of human growth and development.

13. (C) Reduced sodium and increased potassium.
A therapeutic diet for managing hypertension prioritizes the reduction of dietary sodium to lower blood pressure and prevent fluid retention. Simultaneously, increasing potassium intake is emphasized as it helps the body excrete sodium and relaxes blood vessel walls. This nutritional approach, often associated with the DASH eating plan, focuses on whole foods like fruits, vegetables, and lean proteins while limiting processed items that are high in salt.

14. (D) Base of the pyramid.
The food pyramid serves as a visual guide for healthy eating, organizing food groups based on recommended intake levels. Foods positioned at the base of the pyramid should constitute the largest portion of the daily diet, providing essential energy and nutrients. Moving upward, the portions decrease, with items at the narrow top intended for sparse consumption. This structure helps individuals understand the relative importance of different food categories for health.

15. (B) b and c only
Micronutrients, which include vitamins and minerals, are essential substances required by the body in small quantities to maintain health and prevent disease. Unlike macronutrients, they do not provide energy directly but are critical for regulating various metabolic functions and cellular processes. Ensuring an adequate intake of these nutrients is vital for supporting the immune system, bone health, and efficient

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energy production within the body across all life stages.

16. (B) Iron
Anemia is a medical condition characterized by a deficiency in healthy red blood cells or hemoglobin, which reduces the blood's ability to transport oxygen. The most common cause is a lack of dietary iron, a mineral essential for hemoglobin production. Symptoms often include fatigue, weakness, and pallor. Addressing this deficiency through iron-rich foods or supplementation is a primary nutritional intervention to restore healthy blood levels and overall energy.

17. (B) It focuses exclusively on the clinical treatment of rare metabolic disorders.
Public health nutrition focuses on improving the health status of entire populations through large-scale policies, educational programs, and preventive interventions. It aims to address widespread issues like malnutrition and chronic diseases across diverse communities. Unlike clinical nutrition, which may provide intensive treatment for rare metabolic disorders in individuals, public health nutrition prioritizes systemic changes and broad strategies to promote the well-being and health of the general society.

18. (A) Increased energy, protein, and minerals such as calcium and iron.
Adolescence is a critical period of development marked by a significant growth spurt that increases the body's physiological demands. During this stage, there is a heightened requirement for energy and protein to support rapid tissue building and development. Minerals like calcium and iron are also essential for bone density and blood volume expansion. Meeting these increased nutritional needs is vital for ensuring healthy maturation and preventing long-term deficiencies.

19. (C) To serve as the main source of energy for fuel.
In the context of sports nutrition, carbohydrates serve as the primary and most efficient source of fuel for athletes. They provide the necessary glucose for energy production during both high-intensity and endurance activities. The body stores carbohydrates as glycogen in the muscles and liver, which can be rapidly mobilized during exercise. Maintaining adequate carbohydrate levels is essential for optimizing performance, delaying fatigue, and supporting recovery after training.

20. (B) P-2, Q-1, R-4, S-3
National nutrition programs in India target specific vulnerable groups to improve overall health outcomes. The Integrated Child Development Services focus on pregnant women and children under six, while the Mid-Day Meal Scheme addresses school-going children. The Janani Shishu Suraksha Karyakram provides care for pregnant women and sick newborns, and the National Iodine Deficiency Disorders Control Programme utilizes iodized salt for the entire population. These initiatives are essential.

21. (C) A cross-sectional study.
A cross-sectional study is a type of observational research design that analyzes data from a population at one specific point in time. This method is frequently used in nutritional epidemiology to determine the prevalence of health conditions or dietary habits within a group. Because it captures a snapshot of the population, it is efficient for identifying associations, although it cannot establish a definitive cause-and-effect relationship between variables.

22. (B) Establishing rapport and working collaboratively with the individual.
Effective diet counseling relies on establishing a positive rapport and working collaboratively with individuals to facilitate behavioral change. Rather than imposing rigid rules, the counselor acts as a facilitator, helping the client set realistic goals based on their unique lifestyle and preferences. This client-centered approach increases the likelihood of long-term adherence to nutritional recommendations and empowers individuals to take an active role in managing their own health.

23. (D) Supplements and Additives
Basic food group classifications categorize edible items based on their nutrient profiles and botanical or biological origins. Standard groups include cereals, millets, pulses, legumes, fats, and sugars, which provide the bulk of essential nutrients. Supplements and additives are not considered primary food groups as they are used to enhance or complement the diet rather

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than serve as fundamental dietary staples. Understanding these categories is essential for planning.

24. (A) Xerophthalmia
Vitamin A is essential for maintaining healthy vision, particularly in low-light conditions, and supporting immune function. A deficiency can lead to xerophthalmia, a progressive eye disease that can cause permanent blindness if left untreated. This condition begins with night blindness and can advance to severe dryness and damage of the cornea. Consuming foods rich in Vitamin A, such as carrots and leafy greens, is vital for preventing this specific disorder.

25. (A) Both A and R are true and R is the correct explanation of A.
Community nutrition programs are vital in developing nations as they tackle widespread health challenges like protein-energy malnutrition and micronutrient deficiencies. These initiatives aim to promote health equity by ensuring that vulnerable populations have access to essential nutritional resources and education. By focusing on prevention and collective well-being, these programs reduce the burden of disease and improve the overall quality of life across diverse communities and population groups.

26. (A) Decreased basal metabolic rate and loss of lean body mass.
During the aging process, the body undergoes various physiological changes that significantly impact nutritional requirements. A major concern is the decrease in basal metabolic rate and the gradual loss of lean body mass, often referred to as sarcopenia. These changes mean that elderly individuals may require fewer total calories while still needing high levels of essential nutrients to maintain health, prevent muscle wasting, and support functional independence in later life.

27. (D) Weight and height.
Body Mass Index is a widely used screening tool that relates an individual's weight to their height to assess body composition. It provides a simple numeric value that helps categorize individuals as underweight, normal weight, overweight, or obese. While it does not measure body fat directly, it serves as a useful indicator of potential health risks associated with weight. It is a fundamental component of standard nutritional assessment protocols.

28. (A) Both Statement I and Statement II are true.
Therapeutic nutrition involves the strategic modification of a standard diet to meet the specific physiological needs of a person with a medical condition. This can include changes in nutrient composition, caloric intake, or food consistency, such as a liquid diet for those with digestive issues. These modifications are essential for managing diseases, supporting recovery, and improving clinical outcomes. They bridge the gap between medical treatment and everyday nutritional habits.

29. (C) The quantity in which the nutrients are required by the body.
The classification of nutrients into macro and micro categories is based on the quantities required by the human body for optimal functioning. Macronutrients, such as proteins and carbohydrates, are needed in large amounts to provide energy and structural support. Micronutrients, including vitamins and minerals, are required in much smaller quantities but are essential for regulating metabolic processes. Both categories are vital for maintaining health, regardless of the amount consumed.

30. (A) a, c, and d
In the immediate aftermath of a disaster, nutritional priorities focus on ensuring access to safe drinking water and adequate energy to prevent starvation. Fortified blended foods are frequently utilized to address potential micronutrient deficiencies on a large scale. Rapid nutritional assessments are also conducted to identify the most vulnerable groups and direct resources effectively. These strategies prioritize survival and the prevention of widespread malnutrition during the most critical emergency phases.

31. (A) All of the above.
Nutrients play several fundamental roles in maintaining the health and functionality of the human body. They provide the necessary energy for all physiological activities and metabolic processes. Additionally, nutrients such as proteins are essential for building new tissues and

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repairing damaged ones. They also regulate vital body processes, including hormone production and immune responses. A balanced intake of all nutrients is required to support these diverse biological functions effectively.

32. (B) To systematically investigate problems to reach new scientific conclusions.
The primary purpose of research in dietetics is to conduct systematic investigations that lead to new scientific conclusions and evidence-based practices. By exploring the relationships between diet, health, and disease, researchers can develop more effective nutritional interventions. This process involves formulating questions, gathering data, and analyzing results objectively. Continuous research ensures that the field of nutrition evolves with accurate information, ultimately improving the quality of patient care and public health.

33. (B) Conducting a comprehensive diet history and lifestyle assessment.
For a newly diagnosed diabetic patient, the first step in effective diet management is a comprehensive assessment of their current eating habits and lifestyle. This process allows health professionals to understand the patient's preferences, daily routines, and potential barriers to change. By collecting a detailed diet history, a personalized and realistic nutritional plan can be developed. This individualized approach increases the likelihood of long-term adherence and successful management of blood glucose levels.

34. (A) Ensure nutritional well-being for all citizens and combat malnutrition.
A National Nutrition Policy serves as a strategic framework to ensure the nutritional well-being of the entire population. Its primary objectives include combating both undernutrition and overnutrition through coordinated interventions across various sectors. By addressing the root causes of malnutrition, such as food insecurity and lack of education, the policy aims to improve public health outcomes. It provides a roadmap for government initiatives and programs to enhance the nutritional status of all citizens.

35. (B) a and d only
Nutrient requirements for Indians are defined by the Indian Council of Medical Research through Recommended Dietary Allowances. these guidelines take into account various factors that influence an individual's nutritional needs, such as basal metabolic rate and physical activity levels. The requirements are not uniform, as they vary significantly based on age, gender, and physiological status. Accurate adherence to these recommendations is crucial for maintaining optimal health and preventing nutritional deficiencies within the population.

36. (D) Six months of life.
Exclusive breastfeeding is recommended for the first six months of an infant's life to provide optimal nutrition and support healthy development. Breast milk contains all the necessary nutrients, antibodies, and fluids required during this critical period. It protects the infant from infections and reduces the risk of chronic diseases later in life. After six months, complementary foods should be introduced while continuing breastfeeding to meet the growing nutritional demands of the child.

37. (C) Conducting a 24-hour dietary recall.
Dietary assessment involves various techniques to evaluate an individual's food and nutrient intake. A common method is the 24-hour dietary recall, where the individual describes all foods and beverages consumed during the previous day. This information helps health professionals estimate nutrient adequacy and identify potential dietary gaps. While other methods like anthropometry and biochemical tests assess the physical and internal status, dietary assessment specifically focuses on what a person eats.

38. (B) Community nutrition includes non-government work; public health is policy-led.
While community nutrition and public health nutrition share similar goals, they differ in their scope and focus. Community nutrition encompasses a wider range of activities, including programs led by non-governmental organizations and local initiatives focused on specific groups. Public health nutrition is more traditionally associated with government-led policies and large-scale interventions aimed at the entire population. Both fields prioritize the prevention of nutritional problems through education and

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environmental changes to improve collective health.

39. (D) It involves the longitudinal follow-up of subjects over a period of time.
A longitudinal or cohort study is a research design that follows a specific group of individuals over an extended period. This approach allows researchers to observe how exposures, such as dietary habits, influence the development of health outcomes or diseases over time. By tracking subjects prospectively, this design provides stronger evidence for temporal relationships compared to cross-sectional studies. It is a vital tool in nutritional epidemiology for understanding the long-term effects of nutrition.

40. (D) P-2, Q-1, R-4, S-3
Nutritional concerns vary significantly across the human life cycle due to changing physiological demands. Infancy requires nutrients for rapid growth and brain development, while adolescence is marked by a need to address iron deficiency and body image. Pregnancy necessitates increased folate, iron, and calcium for the developing fetus. In old age, the focus shifts to managing chronic diseases and physiological changes. Identifying these specific needs is essential for providing effective nutritional support at every stage.

41. (C) Excessive saturated fats
A balanced diet is designed to provide all the necessary nutrients in the correct proportions to maintain health. It includes adequate calories, essential micronutrients like vitamins and minerals, and sufficient dietary fiber to support digestion. While fats are a necessary component of the diet, excessive intake of saturated fats is not part of a balanced approach, as it can increase the risk of heart disease. Prioritizing healthy unsaturated fats over saturated ones is recommended.

42. (A) Severe deficiency of dietary protein with adequate energy intake.
Kwashiorkor is a form of severe acute malnutrition that primarily results from a significant deficiency in dietary protein despite an adequate intake of total calories. It is often characterized by edema, or swelling, particularly in the abdomen and limbs, as well as skin and hair changes. This condition is distinct from marasmus, which involves a deficiency in both protein and energy. Providing high-quality protein and essential nutrients is critical for treating and recovering from kwashiorkor.

43. (D) Bitot's spots on the conjunctiva.
Clinical signs are physical manifestations of nutritional status that can be observed during a medical examination. Bitot's spots, which appear as foamy patches on the white part of the eye, are a classic clinical sign of Vitamin A deficiency. These signs are often used in conjunction with other assessment methods, such as anthropometric and biochemical tests, to diagnose malnutrition. Recognizing these physical indicators is essential for early intervention and preventing the progression of serious deficiency diseases.

44. (B) Scheme for Adolescent Girls (SAG)
The Scheme for Adolescent Girls is a specific government intervention in India designed to improve the nutritional and health status of young girls. It aims to empower adolescent girls by providing nutrition support, life skills education, and access to health services. By targeting this vulnerable group, the program addresses issues like anemia and undernutrition during a critical period of growth. This initiative is part of a broader effort to break the intergenerational cycle of malnutrition.

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45. (A) Both A and R are true and R is the correct explanation of A.
Diet counseling is most effective when it follows a client-centered approach, involving the individual actively in the process. When clients are engaged in setting their own dietary goals and making decisions, they are more likely to achieve lasting behavioral changes. This collaborative method respects the individual's preferences and lifestyle, leading to more realistic and sustainable outcomes. Empowering clients through education and support is a fundamental principle of successful nutritional management and long-term health.

46. (D) Consumption of easily digestible carbohydrates and essential fluids.
During intense physical activity, the body's primary demand is for rapid energy and proper hydration to maintain performance. Sports nutrition guidelines recommend the

consumption of easily digestible carbohydrates, which provide a quick source of glucose for the muscles. Additionally, essential fluids are necessary to replace sweat losses and prevent dehydration. This approach helps athletes sustain their effort level and reduces the risk of fatigue or heat-related issues during competition or training.

47. (C) Statement I is true but Statement II is false.
A research design provides the essential framework for conducting a study, ensuring that the methods used are appropriate to answer the research question. The choice of design is directly dependent on the nature of the question being investigated, whether it is descriptive, analytical, or experimental. A well-chosen design ensures the validity and reliability of the research findings. Understanding the relationship between the research question and the design is fundamental for any scientific investigation in nutrition.

48. (B) Varying and critical periods of growth with specific nutritional demands.
The journey from conception through adolescence is a continuous process characterized by distinct and critical periods of growth. Each stage, from fetal development to the adolescent growth spurt, has unique nutritional demands that must be met to ensure healthy development. Insufficient nutrition during these sensitive periods can have long-lasting effects on physical and cognitive health. Recognizing these varying needs allows for targeted nutritional interventions that support optimal growth and development throughout the early years.

49. (B) To prevent disease and promote health at the population level.
The primary objective of public health nutrition interventions is to prevent diseases and promote overall health across entire populations. This involves implementing large-scale strategies such as food fortification, nutrition education, and policy changes to address common health challenges. By focusing on the population as a whole, these interventions aim to reduce the prevalence of nutritional deficiencies and chronic diseases. Promoting health at this level improves the quality of life and reduces healthcare costs for society.

50. (C) a, b, and c
Managing celiac disease requires a strict, lifelong adherence to a gluten-free diet to prevent damage to the small intestine. This involves the complete elimination of foods containing wheat, barley, and rye. Safe alternatives include rice, corn, and other naturally gluten-free grains. Because even trace amounts of gluten can trigger a reaction, careful food selection and cross-contamination prevention are essential. This therapeutic diet is the only effective treatment for individuals diagnosed with this autoimmune condition.

51. (C) The diet includes variety and nutrient adequacy.
The concept of food groups is essential for planning a balanced diet that provides all necessary nutrients. By categorizing foods based on their nutritional profiles, individuals can ensure variety in their daily intake. This approach prevents dietary monotony and helps meet the body's requirements for proteins, carbohydrates, fats, vitamins, and minerals. Selecting items from each group promotes long-term health and reduces the risk of nutritional deficiencies by ensuring a broad range of essential components.

52. (D) To act as a solvent, transport medium, and temperature regulator.
Water is a fundamental nutrient that performs several critical functions within the human body. It acts as a primary solvent for biochemical reactions and serves as a transport medium for delivering nutrients and removing waste products from cells. Furthermore, water plays a vital role in regulating body temperature through processes like sweating. Maintaining adequate hydration is essential for the proper functioning of all organ systems and is a key component of overall health.

53. (C) Late infancy (around 6 months).
Weaning, or the introduction of complementary foods, is a critical nutritional phase that typically begins around six months of age. At this stage, breast milk alone is no longer sufficient to meet the increasing energy and nutrient demands of the growing infant. Introducing a variety of safe and nutritious foods alongside continued breastfeeding ensures the child receives adequate iron, protein, and other essential nutrients.

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This transition is vital for healthy growth and developing eating habits.

54. (B) To identify vulnerable groups and monitor the nutritional situation.
Nutritional surveillance during disasters is essential for identifying the most vulnerable segments of the population and monitoring changes in their nutritional status. This process involves the systematic collection and analysis of data to guide relief efforts and resource allocation. By understanding which groups are at highest risk, aid can be directed more effectively to prevent widespread malnutrition. Continuous surveillance ensures that the response remains appropriate to the evolving needs of the affected community.

55. (C) a, b, and c only
Food and nutrition security is built on three main pillars: availability, access, and utilization. Availability refers to the presence of sufficient quantities of food, while access involves individuals having the necessary resources to acquire it. Utilization focuses on the body's ability to use nutrients through a healthy diet, clean water, and proper sanitation. All three components must be addressed simultaneously to ensure that everyone can maintain an active and healthy life through adequate nutrition.

56. (A) Serum hemoglobin level
Anthropometric measurements are physical dimensions of the human body used to assess nutritional status and growth. Common examples include height, weight, and mid-upper arm circumference, which provide direct information about body composition and development. Serum hemoglobin levels, however, are a biochemical assessment tool rather than an anthropometric one. Hemoglobin is measured through blood analysis to detect conditions like anemia, whereas anthropometry focus on external physical measurements to evaluate health and nutritional trends.

57. (C) Restricted in protein, sodium, and potassium.
A therapeutic diet for patients with chronic kidney disease who are not yet on dialysis typically requires the restriction of several key nutrients. Protein intake is often limited to reduce the workload on the kidneys and prevent the accumulation of waste products. Sodium and potassium are also restricted to manage blood pressure and avoid dangerous electrolyte imbalances. These dietary modifications are essential for slowing the progression of the disease and maintaining the patient's overall health and stability.

58. (A) To provide a structured plan for the collection and analysis of data.
A research design is a fundamental component of any scientific study, providing a structured plan for how data will be collected and analyzed. It serves as a blueprint that ensures the research process is systematic and capable of answering the initial question. By defining the methods and procedures in advance, the design helps to minimize bias and improve the reliability of the findings. A clear research design is essential for reaching valid and scientifically sound conclusions.

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59. (D) Building trust and understanding the client's lifestyle and goals.
The initial phase of diet counseling focuses on establishing a strong relationship between the counselor and the client. Building trust is essential for open communication and successful long-term management. During this phase, the counselor seeks to understand the client's unique lifestyle, food preferences, and personal health goals. This foundational step allows for the development of a personalized plan that is realistic and sustainable, increasing the likelihood of positive behavioral changes and health outcomes.

60. (B) P-3, Q-4, R-1, S-2
Understanding key research terms is essential for conducting and interpreting scientific studies. A hypothesis is a testable prediction, while a variable is a characteristic that can change. A sample is a subset of a population selected for study, and validity refers to the accuracy of a research tool. These concepts provide the structure for systematic investigation and ensure that findings are reliable. Mastering these terms allows researchers to design better studies and contribute valuable knowledge.

61. (C) Fats, Oils, and Sweets

In the food pyramid, different food groups are organized based on the recommended frequency and quantity of consumption. The apex of the pyramid is occupied by fats, oils, and sweets, indicating that these items should be consumed sparingly. While some fats are essential for health, many foods in this category provide high calories with minimal nutrients. Prioritizing foods from the lower levels of the pyramid ensures a more balanced intake of vitamins, minerals, and other vital components.

62. (D) 2, 4, 1, 3
The ABCD model provides a systematic approach to nutritional assessment, covering anthropometric, biochemical, clinical, and dietary methods. Anthropometric measurements assess physical dimensions, while biochemical tests analyze internal nutrient levels. Clinical examinations look for physical signs of deficiency, and dietary assessments evaluate food intake. Using these four components together provides a comprehensive view of an individual's nutritional status. This holistic evaluation is essential for diagnosing malnutrition and developing effective interventions to improve health outcomes and prevent disease.

63. (D) Statement I is false but Statement II is true.
Public health nutrition focuses on the health and nutritional status of entire populations through large-scale policies and preventive strategies. It aims to address widespread issues like malnutrition and chronic diseases across society. Community nutrition, while similar, focuses specifically on improving the well-being of individuals and groups within defined communities. Both fields prioritize prevention and collective health over individual clinical treatment. Understanding these distinctions is important for designing and implementing effective nutritional programs that reach diverse groups.

64. (B) Iodine
Goitre is a physical condition characterized by the visible enlargement of the thyroid gland, which is often a sign of chronic iodine deficiency. Iodine is an essential mineral required for the production of thyroid hormones that regulate metabolism and development. When intake is insufficient, the thyroid gland expands in an attempt to capture more iodine from the blood. Ensuring adequate iodine intake through fortified salt is a primary public health strategy to prevent this and other related disorders.

65. (A) Both A and R are true and R is the correct explanation of A.
Adolescence is a period of rapid physical development, second only to infancy, which results in significantly higher nutritional requirements compared to childhood. The intense growth spurt in height and weight, combined with the development of secondary sexual characteristics, increases the body's demand for energy and key nutrients. Meeting these heightened needs is essential for supporting healthy maturation and preventing deficiencies. Providing adequate nutrition during this critical window is vital for long-term health and achieving full biological potential.

66. (A) General food distribution
In nutritional emergency situations, general food distribution is a primary component of the initial response. The goal is to provide the affected population with enough energy and nutrients to prevent starvation and widespread malnutrition. This large-scale intervention ensures that everyone has access to basic food items during the most critical phase of a disaster. Along with safe water, providing adequate food energy is the highest priority to maintain health and reduce mortality in displaced populations.

67. (C) Pregnant women, lactating mothers, and children under six years.
The Integrated Child Development Services program is a major national initiative in India aimed at improving the health and nutritional status of the most vulnerable groups. It specifically targets pregnant women, lactating mothers, and children under the age of six. By providing a package of services, including supplementary nutrition, immunizations, and health check-ups, the program addresses the critical early years of development. This holistic approach is essential for reducing child mortality and promoting healthy growth across the country.

68. (D) Modifying diets to treat or manage a specific medical condition.

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Clinical and therapeutic nutrition focuses on using dietary modifications as a key part of treating and managing various medical conditions. This involves tailoring a patient's nutrient intake, caloric levels, or food consistency to meet their specific physiological needs during illness or recovery. By integrating nutritional science into clinical care, health professionals can improve patient outcomes and support the healing process. This individualized approach is essential for managing chronic diseases and acute health challenges effectively in a clinical setting.

69. (C) Reduce measurement bias.
Blinding or masking is a critical technique used in research to ensure that the findings are objective and not influenced by participant or researcher expectations. By preventing individuals from knowing which treatment they are receiving, the study reduces the risk of measurement bias. This is particularly important in clinical trials testing new dietary interventions or supplements. Using blinding improves the internal validity of the study and provides stronger evidence for the actual effects of the intervention being tested.

70. (A) a, b, and e
Nutritional health from conception through adolescence is marked by several critical periods with specific demands. Folic acid intake before and during early pregnancy is vital for preventing defects, while iron deficiency remains a common concern throughout infancy and the adolescent growth spurt. Calcium requirements also peak during adolescence to support rapid bone development. Addressing these specific needs at each stage is essential for ensuring healthy growth and preventing long-term nutritional problems that can impact adulthood.

71. (D) The patient's adherence to the prescribed diet and lifestyle changes.
The successful management of chronic conditions like diabetes depends heavily on the patient's long-term commitment to a prescribed dietary and lifestyle plan. While health professionals provide guidance and support, the daily choices made by the individual are the primary factors in controlling blood glucose levels and preventing complications. Education and empowerment are key components of diet management, as they help patients develop the skills and motivation needed to maintain healthy habits consistently over time.

72. (A) A nutrient required in small amounts for physiological function.
Micronutrients are essential substances, including vitamins and minerals, that the human body requires in relatively small quantities to maintain health and perform vital physiological functions. Unlike macronutrients, they do not provide energy directly but act as critical co-factors for enzymes and regulators of metabolic processes. Ensuring an adequate intake of all micronutrients is necessary to prevent deficiency diseases and support the immune system, bone health, and proper growth and development throughout the entire life span.

73. (C) Niacin (Vitamin B3)
Pellagra is a serious nutritional deficiency disease caused by a lack of niacin, also known as Vitamin B3. It is traditionally characterized by the "three Ds": dermatitis, diarrhea, and dementia. This condition can develop in populations with diets heavily reliant on corn that has not been properly treated, as the niacin in corn is not easily absorbed. Ensuring a diverse diet that includes sources of niacin and its precursor, tryptophan, is essential for preventing this debilitating and potentially fatal disease.

74. (A) Communicating the principles of a healthy diet to the public.
The food pyramid is a widely used educational tool designed to communicate the fundamental principles of a healthy and balanced diet to the general public. It visually organizes different food groups to show the recommended proportions and frequency of consumption. By placing foods that should be eaten most at the base and those to be eaten sparingly at the top, it provides a simple and accessible guide for making healthier food choices and improving nutritional awareness.

75. (A) a, b, and c
Sports nutrition is a specialized field that focuses on optimizing athletic performance and recovery through proper diet. Key principles include maintaining adequate hydration for safety and function, using carbohydrates as the primary fuel for intense exercise, and ensuring

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protein intake for muscle repair. Athletes have unique nutritional requirements that differ from sedentary individuals due to their high physical activity levels. Addressing these specific needs through well-timed nutrient and fluid intake is essential for achieving peak performance.

76. (C) Statement I is true but Statement II is false.
Pregnancy brings about significant physiological changes, such as increased blood volume and metabolic rate, which lead to higher nutritional demands for the mother. These changes are necessary to support the growth and development of the fetus and the placenta. Nutrients like iron and folic acid are particularly critical during this period. The nutritional status of the mother directly impacts the health of the fetus, making adequate intake essential. Recognizing these increased demands is fundamental for ensuring healthy pregnancy outcomes.

77. (C) Analyzing levels of nutrients or their metabolites in blood or urine.
Biochemical assessment is a direct method of evaluating nutritional status by analyzing the levels of nutrients or their metabolites in biological samples like blood or urine. These tests can identify subclinical deficiencies before physical signs appear, providing an early indication of nutritional problems. For example, measuring serum ferritin can detect iron deficiency. When combined with other assessment methods, biochemical data offers a more complete and objective picture of an individual's internal health and nutrient adequacy.

78. (D) Physical and economic access to sufficient, safe, and nutritious food.
Food and nutrition security is achieved when all people have physical and economic access to enough safe and nutritious food to meet their dietary needs and preferences. This concept involves not just the availability of food but also the ability to acquire and properly use it. Achieving security requires addressing issues like poverty, food distribution, and sanitation. It is a fundamental requirement for health and well-being, ensuring that every individual can maintain an active and healthy life.

79. (A) A randomized controlled trial (RCT).
A randomized controlled trial is the most robust research design for evaluating the effectiveness of a new intervention, such as a dietary supplement. By randomly assigning participants to either a treatment group or a control group, researchers can minimize bias and isolate the effect of the intervention. This design provides the strongest evidence for cause-and-effect relationships. In nutritional research, RCTs are essential for developing evidence-based recommendations and ensuring the safety and efficacy of products.

80. (B) P-3, Q-4, R-1, S-2
Nutrition encompasses various specialized fields, each with a unique focus. Diet counseling is a collaborative process to help individuals manage their diet, while therapeutic nutrition involves diet modification to treat disease. Public health nutrition addresses the status of entire populations, and sports nutrition supports athletic performance. Understanding these different areas allows for more targeted and effective nutritional interventions across diverse settings, from individual clinical care to large-scale public health programs aimed at community well-being.

81. (B) Ready-to-use therapeutic foods (RUTF) for malnourished children.
Managing nutrition during disasters requires efficient and effective interventions to prevent mortality and severe malnutrition. Ready-to-use therapeutic foods are a key component of this response, as they are energy-dense, nutrient-rich, and do not require water or cooking. These products are specifically designed to treat severe acute malnutrition in children under challenging conditions. Providing RUTF allows for rapid treatment and can significantly improve survival rates among the most vulnerable groups during an emergency or humanitarian crisis.

82. (A) The fact that it is required in large quantities by the body.
The term 'macro' in macronutrient refers to the fact that these nutrients are required by the human body in relatively large quantities every day. This category includes carbohydrates, proteins, and fats, which are the primary sources of energy and building blocks for tissues. In contrast, micronutrients are needed in much smaller amounts. Both macro and micro nutrients

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are essential for life, but their classification is based purely on the volume required to maintain health and physiological function.

83. (C) Vitamins provide the main source of calories for the body.
Nutrients perform diverse and essential roles in the body. Proteins build and repair tissues, while carbohydrates are the preferred energy source, and fats provide insulation and support vitamin absorption. However, vitamins do not provide calories and are not a source of energy themselves. Instead, they act as critical regulators of metabolic processes. Understanding the unique function of each nutrient category is essential for planning a balanced diet that supports all physiological needs and maintains long-term health.

84. (D) The balance between energy for growth and the risk of childhood obesity.
For school-aged children, a major nutritional concern is maintaining a healthy balance between providing enough energy and nutrients for growth and avoiding excessive weight gain. The increasing prevalence of childhood obesity is a significant public health challenge, as it increases the risk of chronic diseases later in life. Ensuring an adequate intake of nutrient-dense foods while encouraging physical activity is essential. Developing healthy eating habits during these years provides a foundation for long-term health and well-being into adulthood.

85. (C) To promote a single foreign dietary pattern for the entire population.
A national nutrition policy aims to improve the overall nutritional status of the country by ensuring food security, preventing deficiencies, and reducing mortality rates. It focuses on addressing the specific needs and dietary patterns of the population rather than promoting a single foreign model. By coordinating efforts across sectors like health, agriculture, and education, the policy provides a framework for sustainable interventions. Promoting culturally appropriate and locally available foods is key to achieving widespread and lasting nutritional improvements.

86. (B) Compares diseased cases to healthy controls to analyze past exposures.

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A case-control study is a retrospective research design used in nutritional epidemiology to investigate the relationship between past exposures and current health conditions. Researchers compare individuals who have a specific disease with healthy individuals to identify differences in their previous dietary habits or other factors. This design is particularly useful for studying rare diseases or conditions with long latency periods. While it cannot prove causation, it provides valuable insights and helps generate hypotheses for further scientific investigation.

87. (D) Vitamin K - Pellagra
Nutritional deficiency diseases are directly linked to the lack of specific essential vitamins or minerals in the diet. For example, Vitamin C deficiency leads to scurvy, thiamine deficiency to beriberi, and iron deficiency to anemia. However, Vitamin K is primarily responsible for blood clotting, and its deficiency leads to bleeding disorders. Pellagra is caused by a deficiency of niacin, or Vitamin B3. Correctly identifying these nutrient-disease pairs is fundamental for the diagnosis and treatment of clinical nutritional conditions.

88. (A) Both A and R are true and R is the correct explanation of A.
Anthropometric measurements are a fundamental component of nutritional assessment because they provide objective data on physical growth and body composition. Measurements such as height, weight, and mid-upper arm circumference are sensitive indicators of both acute and chronic malnutrition. They allow health professionals to monitor growth patterns and identify individuals at risk for health problems. These non-invasive and relatively simple techniques are essential tools for evaluating nutritional status in both clinical and community health settings across all ages.

89. (C) Collaborative goal setting and systematic problem-solving.
Effective diet counseling is a collaborative process between the counselor and the client, focusing on identifying barriers and developing practical solutions. By setting realistic and measurable goals together, the likelihood of sustainable behavioral change is significantly increased.

This approach respects the client's unique circumstances and empowers them to take an active role in managing their own nutrition and health. Moving away from an authoritative model towards one of partnership is a key principle of modern nutritional counseling and management.

90. (A) a, c, and d
Clinical and therapeutic nutrition is a specialized field that involves modifying diets to treat or manage specific medical conditions. This can include changes in food consistency, such as pureed diets, or altering the intake of specific nutrients like protein or sodium. These interventions are a critical part of the overall medical care for many chronic and acute diseases. Tailoring nutritional support to the individual's diagnosis and physiological needs is essential for improving clinical outcomes and supporting the recovery process.

91. (D) Provide all necessary nutrients for optimal health and function.
A balanced diet is designed to provide all the essential nutrients in the correct proportions to support the body's optimal health and function. It includes a variety of foods from all major food groups, ensuring a comprehensive intake of proteins, carbohydrates, fats, vitamins, and minerals. Rather than focusing on extreme restriction or single food items, a balanced approach prioritizes nutrient density and variety. This foundational principle of nutrition is key to preventing deficiencies and reducing the risk of chronic diseases.

92. (B) Body composition and basal metabolic rate.
Nutrient requirements vary between individuals based on several factors, including gender, even when age and activity levels are similar. Adult females typically have different nutritional needs than males primarily due to differences in body composition and basal metabolic rate. For example, males generally have more lean muscle mass, which increases their energy requirements. Additionally, physiological differences such as menstruation influence the demand for specific nutrients like iron. Tailoring recommendations to these biological differences is essential for maintaining optimal health for everyone.

93. (C) Developing a nutrition education campaign for an entire community.
Public health nutritionists work to improve the health and nutritional status of entire populations through large-scale interventions and programs. An example of their work includes developing and implementing nutrition education campaigns aimed at a community or group. Unlike clinical nutritionists who focus on individual patients, public health professionals prioritize prevention and systemic changes to address widespread health challenges. Their work often involves policy development, program evaluation, and collaboration with various community organizations to promote health and well-being.

94. (D) Extremely rapid growth and a high relative metabolic rate.
Infancy is a unique stage of the life cycle characterized by extremely rapid physical growth and a very high metabolic rate relative to body size. These physiological changes create high demands for energy and essential nutrients to support developing organ systems and brain function. Because infants have limited stomach capacity, it is vital to provide nutrient-dense foods, starting with breast milk. Meeting these intense nutritional needs during this critical window is essential for healthy long-term growth and cognitive development.

95. (A) a, c, and d
India has implemented several national nutritional intervention programs to address issues like food insecurity and malnutrition. The Mid-Day Meal scheme provides cooked meals to school children, while the Public Distribution System offers subsidized food grains to vulnerable households. These programs are designed to improve the nutritional status of targeted populations and reduce the burden of deficiency diseases. Together with other initiatives like the National Nutrition Mission, they form a comprehensive approach to enhancing public health across the country.

96. (B) Anthropometric.
The ABCD model is a standardized framework for nutritional assessment, where 'A' stands for Anthropometric. This component involves measuring physical dimensions of the body,

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such as height, weight, and mid-upper arm circumference. These measurements provide objective data on growth, body composition, and nutritional status. When used alongside biochemical, clinical, and dietary assessments, anthropometric data helps health professionals identify malnutrition and monitor the effectiveness of interventions. It is a fundamental, non-invasive tool used in various health settings.

97. (B) High in protein with controlled potassium, phosphorus, and fluids.
For patients on hemodialysis, the therapeutic diet must be carefully adjusted to balance nutritional needs with the limitations of kidney function. Unlike those not on dialysis, these patients often require a higher protein intake to replace losses during the treatment. However, they must strictly control their intake of potassium, phosphorus, and fluids to prevent dangerous accumulations between dialysis sessions. This complex nutritional management is essential for maintaining stability, preventing complications, and improving the quality of life for renal patients.

98. (D) Statement I is false but Statement II is true.
Effective diet management is not a one-time event but an ongoing process that requires continuous monitoring and adjustments. While diet counseling provides the initial guidance, the management phase involves translating that advice into sustainable daily habits. Regular follow-up sessions allow health professionals to track progress, address challenges, and refine the nutritional plan as the individual's needs or circumstances change. This long-term approach is essential for achieving lasting behavioral changes and successfully managing chronic health conditions through nutrition.

99. (C) Obtaining signed informed consent from all research participants.
Ethical research is built on the principle of respect for participants, which includes ensuring they are fully informed about the study before agreeing to join. Obtaining signed informed consent is a fundamental requirement, confirming that participants understand the purpose, procedures, and potential risks involved. This process protects the rights and well-being of individuals and ensures their voluntary participation. Adhering to ethical guidelines is essential for maintaining the integrity of the research process and the trust of the scientific community.

100. (D) Nutritional requirements change with development, growth, and aging.
The concept of nutrition through the life span emphasizes that nutritional needs are dynamic and evolve as individuals progress from birth to old age. Each stage of development, from the rapid growth of infancy and adolescence to the physiological changes of pregnancy and aging, presents unique nutritional challenges and requirements. Recognizing these differences is essential for providing appropriate support and preventing deficiencies or chronic diseases. Understanding this progression helps in tailoring dietary advice to promote health and well-being throughout life.

101. (C) Vitamin K
Vitamin K is an essential fat-soluble nutrient that plays a critical role in the human body by facilitating the process of blood clotting. It is necessary for the synthesis of several proteins involved in coagulation, which prevents excessive bleeding from injuries. While other nutrients like calcium and iron are also important for health, Vitamin K is specifically synonymous with blood health in this context. Ensuring an adequate intake of Vitamin K through leafy greens and other sources is vital for maintaining proper coagulation.

102. (B) A school-based program promoting fruit and vegetable consumption.
Community nutrition initiatives focus on improving the health and well-being of groups within a defined community through education and intervention. A school-based program that promotes the consumption of fruits and vegetables is a classic example of such an initiative. By targeting children in an educational setting, these programs can foster healthy eating habits from a young age and reduce the risk of nutritional problems. These collective efforts are essential for promoting public health and preventing chronic diseases across the community.

103. (D) Food Frequency Questionnaire

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Dietary assessment is a key component of nutritional evaluation, focusing on an individual's actual food intake. The Food Frequency Questionnaire is a common tool used to collect information on how often specific foods are consumed over a certain period. This method helps health professionals understand long-term dietary patterns and estimate nutrient intake. While other methods like anthropometry or clinical exams look for physical signs, dietary tools provide direct information about a person's eating habits and potential nutritional gaps.

104. (A) Creating a structured meal plan to control dietary sodium intake.
Diet management involves the practical application of nutritional principles to achieve specific health goals or manage medical conditions. An example of this is creating a structured meal plan to control dietary sodium intake for a person with hypertension. This process requires a systematic approach to food selection and preparation, translating nutritional science into achievable daily habits. By focusing on practical strategies and planning, diet management helps individuals make sustainable changes that improve their health and manage chronic diseases effectively.

105. (B) P-2, Q-3, R-4, S-1
Different vitamins perform specific and essential functions in the body. Vitamin A is critical for vision and immune health, while Vitamin D is necessary for calcium absorption and bone strength. Vitamin E acts as an antioxidant that protects cell membranes, and Vitamin C is vital for wound healing and collagen synthesis. Ensuring an adequate intake of all these vitamins is necessary for maintaining overall health and preventing deficiency diseases. Understanding these unique roles helps in planning a nutritionally complete diet.

106. (A) To answer specific questions through systematic investigation.
The fundamental purpose of research is to answer specific questions or solve problems through a systematic and objective investigation. In the field of nutrition, research helps to build a body of scientific evidence that guides dietary recommendations and clinical practices. By formulating a clear question, gathering data, and analyzing results, researchers can discover new facts and interpret phenomena accurately. This continuous process of inquiry is essential for advancing scientific knowledge and improving health outcomes for individuals and populations.

107. (D) Ensure access to safe drinking water and adequate food energy.
In the immediate aftermath of a disaster, the highest priority for nutritional response is to ensure everyone has access to safe drinking water and enough food energy to survive. These basic needs must be met first to prevent starvation, dehydration, and the rapid spread of waterborne diseases. While other nutritional issues are also important, they are addressed after the initial life-saving phase. Prioritizing energy and water is essential for reducing mortality and maintaining the health of affected populations during the most critical emergency.

108. (B) Nutritional needs are static and do not change from infancy to adolescence.
Nutritional requirements are not static but change significantly across the life cycle due to varying physiological demands. Infants and adolescents have high needs for growth, while pregnant and lactating women require additional nutrients for fetal development and milk production. In old age, while calorie needs may decrease, the requirement for certain nutrients remains high. Understanding how these needs evolve is essential for providing accurate nutritional guidance. Any statement suggesting that needs do not change throughout development is incorrect and misleading.

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109. (C) Vitamin C
Nutrients are categorized into macro and micro groups based on the quantities required by the body. Macronutrients, including carbohydrates, proteins, and fats, are needed in large amounts every day to provide energy and structural materials. In contrast, Vitamin C is a micronutrient, which means it is required in much smaller quantities to support metabolic processes and health. While all nutrients are essential for life, their classification helps in understanding their different roles and the amounts needed in a balanced diet.

110. (A) Both A and R are true and R is the correct explanation of A.
The Mid-Day Meal scheme is a significant nutritional intervention in India that provides a cooked meal to millions of school children daily. This program aims to achieve several goals, including improving nutritional status, increasing school enrollment, and reducing classroom hunger. By providing a reliable source of nutrition, it supports the healthy development and education of children from various backgrounds. The scheme is a critical component of national efforts to combat malnutrition and promote educational equity across the country.

111. (A) Constipation and increased risk of certain chronic diseases.
Dietary fiber is a critical component of a healthy diet, playing a vital role in digestive health. A diet low in fiber can lead to constipation and is associated with an increased risk of chronic conditions like heart disease and Type 2 diabetes. Fiber helps regulate bowel movements and can assist in managing blood sugar and cholesterol levels. Ensuring an adequate intake through whole grains, fruits, and vegetables is essential for maintaining a healthy digestive system and preventing long-term health problems.

112. (A) 2, 4, 3, 1
Conducting scientific research follows a logical sequence of steps to ensure the results are valid and reliable. The process typically begins with the formulation of a hypothesis, followed by selecting an appropriate research design. Once the plan is in place, data collection can begin, which is then followed by data analysis to interpret the findings. This structured approach allows researchers to investigate questions systematically and reach sound conclusions. Mastering these steps is essential for any professional involved in nutritional or clinical research.

113. (B) It reaches most people without requiring changes in dietary habits.
Salt iodization is a highly effective public health strategy because it provides an essential nutrient to a large portion of the population with minimal effort from individuals. Since salt is a widely consumed staple, fortifying it with iodine ensures that people receive this critical mineral without having to change their eating habits. This approach is cost-effective and has successfully reduced the prevalence of iodine deficiency disorders globally. It is a prime example of how large-scale fortification can improve the health of entire communities.

114. (A) Carbohydrate intake to maximize glycogen stores in muscles.
Glycogen loading is a specialized sports nutrition strategy used by endurance athletes to optimize their performance during long events. It involves manipulating carbohydrate intake and exercise intensity to maximize the body's storage of glycogen in the muscles and liver. By increasing these stores, athletes can delay the onset of fatigue and sustain a higher level of effort for longer periods. This technique is most effective for activities lasting more than 90 minutes and requires careful planning and timing for optimal results.

115. (C) a, b, c, and d
Nutritional assessment is most effective when it combines multiple methods to provide a comprehensive view of an individual's health. Anthropometric, biochemical, clinical, and dietary assessments each offer different insights, and using them together allows for a more accurate diagnosis. For example, clinical signs can be confirmed with biochemical tests. These methods are not used in isolation but are integrated to form a complete picture of nutritional status. This holistic approach is essential for identifying malnutrition and developing effective, targeted interventions for individuals.

116. (D) Based on evidence and tailored to an individual's medical condition.
Clinical nutrition is a professional practice that uses evidence-based dietary interventions to support the medical treatment of individuals with various health conditions. Rather than a generic approach, it is tailored to the specific diagnosis, physiological needs, and goals of each patient. By integrating nutritional science into clinical care, health professionals can manage diseases more effectively and support the body's recovery. This individualized and scientifically-grounded approach is essential for providing high-quality care in hospitals and other healthcare settings for diverse patients.

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117. (A) Both Statement I and Statement II are true.
A research design is a critical component of any scientific study, serving as a blueprint to ensure the results accurately answer the research question. A well-constructed design minimizes ambiguity and helps to ensure that the evidence obtained is valid. Conversely, a poor research design can lead to incorrect conclusions and invalid results, which can mislead practitioners and policymakers. Understanding the importance of research design is essential for conducting high-quality studies that contribute valuable and reliable knowledge to the field of nutrition.

118. (B) The client learning skills to self-manage their diet and lifestyle.
In the context of diet counseling, 'management' refers to the process where the client develops the skills and knowledge needed to take control of their own nutrition and lifestyle. The goal of the counselor is to empower the individual to make informed decisions and maintain healthy habits independently. This sustainable approach moves beyond simply following a plan to active self-management. By learning these skills, clients are more likely to achieve long-term success in managing their health conditions and improving their overall well-being.

119. (D) Thiamine (B1)
Beriberi is a serious nutritional deficiency disease caused by a lack of thiamine, also known as Vitamin B1. It can affect the cardiovascular and nervous systems, leading to symptoms like weakness, shortness of breath, and loss of sensation in the limbs. This condition is often seen in populations whose diet is heavily based on polished or white rice, which has had the thiamine-rich outer layer removed. Ensuring an adequate intake of thiamine through whole grains and legumes is essential for prevention.

120. (C) a, b, and c only
The elderly population faces several unique nutritional concerns due to physiological and social changes. These include a decreased ability to absorb nutrients like calcium and Vitamin B12, and a higher risk of dehydration from a reduced sense of thirst. Social factors, such as isolation or limited income, can also impact food access and quality. Unlike younger groups, energy needs in the elderly generally decrease, making it vital to focus on nutrient density. Addressing these varied factors is essential for supporting health in later life.

121. (C) The amount required by the body.
The primary distinction between macronutrients and micronutrients lies in the quantity the human body needs to function correctly every day. Macronutrients, like carbohydrates and proteins, are required in large amounts for energy and structure. Micronutrients, such as vitamins and minerals, are needed in much smaller quantities but are still critical for regulating metabolic processes and preventing disease. Both categories are essential for life, and their classification helps in understanding the broad and specific roles they play in maintaining overall human health.

122. (A) The science of preventing disease and promoting health in society.
Public health nutrition is a field of study and practice focused on preventing disease and promoting optimal health across society through collective action. It involves developing policies, implementing large-scale programs, and using educational strategies to improve the nutritional status of populations. By addressing the root causes of health challenges, such as food access and environment, public health nutrition aims to reduce the burden of both undernutrition and chronic diseases. This population-level focus is essential for creating healthier environments for everyone.

123. (D) Calcium and Iron
During adolescence, the rapid growth spurt creates intense physiological demands for several key minerals. Calcium is essential for achieving peak bone mass and supporting the rapid development of the skeletal system. Iron is equally critical to support the expansion of blood volume and muscle mass during this period of development. Ensuring an adequate intake of both calcium and iron is vital for preventing long-term health problems like osteoporosis and anemia. Meeting these heightened needs is a primary nutritional priority during the teenage years.

124. (B) Provision of sufficient energy and safe water
In the most critical stages of a famine or disaster, the most immediate and life-saving priority is

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to provide the affected population with enough food energy and safe drinking water. These basic resources are essential for preventing starvation and dehydration, which are the primary causes of death in emergency situations. While addressing specific nutrient deficiencies is important, it is secondary to ensuring survival through basic caloric and fluid intake. This focused response is critical for reducing mortality rates during large-scale humanitarian crises.

125. (B) Availability, Access, and Utilization.
Food and nutrition security is built on three fundamental pillars: availability, access, and utilization. Availability means that a sufficient amount of food is physically present, while access ensures that individuals have the economic and social means to acquire it. Utilization refers to the body's ability to absorb and use the nutrients through a healthy diet and proper sanitation. All three pillars must be robust for every person to achieve a consistent state of food and nutrition security for a healthy life.

126. (D) Dietary assessment.
A food frequency questionnaire is a standardized tool used in dietary assessment to collect information about an individual's eating patterns over a specific period. It asks how often various foods are consumed, allowing health professionals to estimate long-term nutrient intake and identify potential dietary gaps. While other assessment methods like anthropometry or biochemical tests measure physical or internal status, dietary tools provide direct data on a person's food choices and habits. This information is essential for tailoring nutritional advice and interventions.

127. (A) Substitute foods with a similar effect on blood glucose levels.
A diabetic exchange list is a practical tool used in diet management for diabetes to help patients manage their blood glucose levels while maintaining variety in their diet. It groups foods into categories with similar carbohydrate, protein, and fat content, allowing patients to swap one food for another within the same group. This flexible approach helps individuals control their energy intake and maintain more stable blood sugar levels. By providing structure and choice, the exchange list empowers patients to follow their nutritional plan.

128. (A) Purpose is 'why' the study is done; design is 'how' it is done.
In the research process, the purpose and the design of a study represent two distinct but closely related components. The research purpose defines the overall goal or the "why" of the investigation, identifying the specific problem or question to be addressed. The research design is the "how," providing the framework and plan for collecting and analyzing data to achieve that purpose. Understanding this distinction is essential for developing a systematic and valid scientific study that can lead to sound and reliable conclusions.

129. (B) Creation of genetic mutations
Nutrients perform several critical and well-defined roles within the human body to maintain health and support function. They provide energy for metabolic processes, serve as the building blocks for growth and tissue repair, and act as regulators for various biological processes. However, creating genetic mutations is not a role of nutrients; in fact, proper nutrition often helps protect the body from such harmful changes. Understanding the true functions of nutrients is fundamental for appreciating the importance of a balanced and healthy diet.

130. (B) P-2, Q-4, R-1, S-3
Nutritional assessment uses various methods to evaluate different aspects of health and nutrient status. Anthropometric measurements like waist-to-hip ratio assess body composition, while biochemical tests like serum ferritin analyze internal nutrient stores. Clinical examinations look for physical signs of deficiency, such as pale conjunctiva, and dietary assessments like the 24-hour recall evaluate food intake. Combining these different components provides a comprehensive view of an individual's nutritional status. This holistic approach is essential for accurate diagnosis and effective management of nutritional problems.

131. (C) Helps the counselor understand the client and build trust.
Empathy is a critical component of effective diet counseling, as it allows the professional to understand the client's unique experiences and challenges. By demonstrating empathy, the counselor builds a trusting relationship, which is

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essential for open communication and successful long-term management. This understanding helps in developing a personalized and realistic nutritional plan that respects the client's lifestyle and preferences. Moving away from an authoritative model towards one based on trust and collaboration significantly increases the likelihood of sustainable behavioral changes.

132. (D) Both energy (calories) and protein.
Marasmus is a form of severe acute malnutrition that results from a chronic deficiency in both dietary energy and protein. It is characterized by severe wasting of muscle and fat, leading to a "skin and bones" appearance. This condition occurs when the body uses its own tissues for fuel due to insufficient intake. Unlike kwashiorkor, marasmus involves an overall lack of calories. Providing a controlled increase in energy and protein intake, along with essential micronutrients, is critical for the survival and recovery of affected individuals.

133. (C) Each stage of development has unique and critical nutritional requirements.
The process of growth and development from conception through adolescence is a continuous journey marked by varying physiological demands. Each stage, from fetal development in the womb to the rapid growth spurt of the teenage years, has unique and critical nutritional requirements. Insufficient nutrition during any of these stages can significantly impact long-term physical and cognitive health. Recognizing and addressing these changing needs is essential for supporting optimal growth and development and building a strong foundation for health in adulthood.

134. (B) To maximize performance, aid recovery, and prevent athletic injury.
Sports nutrition is a specialized field aimed at optimizing an athlete's physical performance and overall health through a tailored diet. Its primary goals include providing the energy needed for training and competition, supporting efficient muscle recovery after exercise, and reducing the risk of injuries. By focusing on the specific timing and amount of nutrient intake, sports nutrition helps athletes reach their full potential. This evidence-based approach is essential for anyone involved in high-intensity physical activity or competitive sports at any level.

135. (A) Both A and R are true and R is the correct explanation of A.
Research is fundamental to the field of nutrition, as it provides the scientific evidence needed to develop accurate dietary guidelines and public health recommendations. Because nutritional science is constantly evolving, ongoing research is essential to validate existing beliefs or refute them based on new data. This systematic process ensures that clinical practices and policies are based on the best available knowledge. By continuously investigating the links between diet and health, research helps to improve the well-being of individuals and populations.

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136. (A) The ability to absorb and use nutrients for health and sanitation.
In the context of food security, the 'utilization' component refers to the body's ability to effectively absorb and use the nutrients from the food consumed. This is influenced by an individual's overall health status, as well as access to clean water and proper sanitation to prevent diseases that interfere with nutrient absorption. Even if food is available and accessible, security is only achieved when it can be utilized properly by the body to maintain an active and healthy life.

137. (C) Adolescence - Body image issues and risk of eating disorders.
Each stage of the life cycle is associated with specific nutritional challenges and concerns. Adolescence is a period of rapid development where body image becomes a significant issue, increasing the risk of eating disorders and unhealthy dietary habits. Managing these psychological and physical changes is a key nutritional priority during these years. While other stages have their own focus, such as rapid growth in infancy or bone health in old age, addressing body image and balanced nutrition is critical for healthy maturation.

138. (A) Modifying texture for patients with chewing or swallowing difficulty.
In clinical settings, modifying the texture of food is a common therapeutic intervention for patients with dysphagia, or difficulty swallowing. Changing solid food to a pureed consistency

ensures that the patient can receive adequate nutrition safely, reducing the risk of choking or aspiration. This modification is tailored to the individual's specific physiological needs and is essential for maintaining health during recovery from surgery or other medical conditions. Texture modification is a fundamental part of providing appropriate and safe nutritional care in clinical environments.

139. (D) Vitamin D
Vitamins are categorized into two groups based on how they are absorbed and stored in the body: water-soluble and fat-soluble. Fat-soluble vitamins, such as Vitamin D, require dietary fats for absorption and are stored in the body's fatty tissues and liver. This allows the body to maintain a reserve of these nutrients. Vitamin D is essential for bone health and immune function. Ensuring an adequate intake of all vitamins through a varied diet is vital for health, regardless of their solubility category.

140. (B) a, b, and c
National nutrition policies and programs are designed to address the broad health challenges of a population, such as undernutrition and micronutrient deficiencies. These initiatives, like ICDS and the Mid-Day Meal scheme in India, often use multi-sectoral approaches that involve the health, education, and agricultural sectors. Their primary goal is to improve the nutritional status of vulnerable groups and reduce the burden of malnutrition. By coordinating efforts across the government, these programs can create sustainable improvements in public health and well-being.

141. (C) A food pyramid or MyPlate model.
Visual tools like the food pyramid or the MyPlate model are essential for communicating the complex principles of a balanced diet to a general audience. These models organize food groups into a clear structure, showing the recommended proportions of different foods for optimal health. By providing a simple and accessible guide, these tools help individuals make better food choices and understand the importance of variety and nutrient density. They are fundamental components of nutrition education and public health promotion efforts worldwide.

142. (A) Both Statement I and Statement II are true.
Nutrients are categorized into macro and micro groups based on the quantities needed by the human body. Macronutrients, including carbohydrates, proteins, and fats, provide the majority of dietary energy and structural materials and are required in large amounts. Micronutrients, which include vitamins and minerals, are needed in much smaller quantities to support metabolic processes and maintain health. Both categories are essential for life and must be consumed in appropriate amounts through a balanced diet to ensure overall physiological function and well-being.

143. (A) A lack of protein causes rickets.
Specific nutrient deficiencies lead to well-defined health conditions. For example, a lack of iron can cause anemia, insufficient Vitamin C results in scurvy, and iodine deficiency leads to goitre. However, rickets is caused by a deficiency of Vitamin D or calcium, not protein. Protein deficiency is more traditionally associated with conditions like kwashiorkor or marasmus. Correctly identifying these nutrient-disease relationships is essential for the diagnosis and treatment of nutritional problems. Understanding these links helps in planning effective interventions and promoting health.

144. (B) Segments of the population at higher risk of malnutrition, such as infants, pregnant women, and the elderly.
In public health nutrition, 'vulnerable groups' are those segments of the population that face a higher risk of malnutrition and its associated health problems. This typically includes infants, young children, pregnant and lactating women, and the elderly, due to their unique physiological demands or social circumstances. Targeted interventions for these groups are a priority because they have the greatest potential to improve overall public health. By addressing the specific needs of the most vulnerable, nutritional programs can more effectively reduce health disparities.

145. (A) a, b, and d
Effective diet counseling is built on several key principles that promote positive and lasting behavioral change. These include maintaining a non-judgmental and empathetic attitude towards

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the client and using a client-centered approach that involves them in goal setting. The ultimate aim is to empower individuals to make sustainable lifestyle changes that improve their health. By building a collaborative partnership and respecting the client's unique needs, nutritional management becomes more successful and results in better long-term outcomes for health and well-being.

146. (A) A significant increase in basal metabolic rate.
During pregnancy, the woman's body undergoes several major physiological changes to support the development of the fetus and placenta. One significant change is an increase in the basal metabolic rate, which elevates the body's energy and nutrient requirements. These changes are essential for ensuring a healthy pregnancy and optimal growth of the unborn child. Recognizing these increased demands is fundamental for providing appropriate nutritional guidance and support to pregnant women, helping to ensure positive health outcomes for both mother and baby.

147. (C) Prevention of nutritional problems through education and intervention.
A core activity of community nutrition is the prevention of nutritional problems across various segments of the population. This is achieved through educational programs and targeted interventions that address the specific needs of individuals and groups within a community. By focusing on prevention, community nutritionists aim to improve the collective health and well-being of society and reduce the prevalence of diet-related diseases. This proactive approach is essential for creating healthier environments and promoting sustainable lifestyle changes for people of all ages.

148. (D) Dehydration, often caused by diarrhea.
Nutritional rehydration solutions are a critical intervention in emergency situations, particularly for treating dehydration, which is often caused by diarrhea. These solutions provide a carefully balanced mix of water, electrolytes, and glucose that help the body rehydrate more effectively than plain water alone. Dehydration is a major cause of mortality, especially among children, during disasters and humanitarian crises. Providing rapid access to rehydration solutions is a high priority for saving lives and maintaining the health of affected populations in challenging environments.

149. (C) Measuring the height of a child.
Nutritional assessment involves several direct methods to evaluate an individual's status, with anthropometry being one of the most common and accessible. Measuring physical dimensions like height and weight provides objective data about a child's growth and development. These simple, non-invasive measurements are sensitive indicators of both acute and chronic malnutrition. By tracking these dimensions over time, health professionals can identify individuals at risk and monitor the effectiveness of nutritional interventions. Anthropometry is a fundamental tool used in clinics and communities worldwide.

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150. (B) A clear liquid diet, progressing as tolerated.
After major abdominal surgery, nutritional support typically begins cautiously with a clear liquid diet. This approach allows the digestive system to start functioning slowly while minimizing the risk of complications. As the patient tolerates fluids, the diet can be gradually progressed to full liquids, soft foods, and eventually a regular solid diet. This careful management of food consistency and nutrient intake is essential for supporting recovery and ensuring the patient's comfort and safety during the critical healing phase after surgery.

151. (D) The Recommended Dietary Allowances (RDA) established by the Indian Council of Medical Research (ICMR).
The term 'nutrient requirements for Indians' specifically refers to the Recommended Dietary Allowances established by the Indian Council of Medical Research. These guidelines are tailored to the unique physiological needs, body composition, and dietary patterns of the Indian population. They provide a target for daily intake of essential vitamins, minerals, and energy to prevent deficiencies and promote health. Adhering to these local recommendations is essential for planning appropriate diets and implementing effective nutritional programs and policies across the country.

152. (A) Involves data collection from a population at one specific point in time.

A cross-sectional design is a type of observational research where data is collected from a population at a single point in time. This method is frequently used in nutrition research to assess the prevalence of specific dietary habits or health conditions within a group. While it can identify associations between different factors, it cannot establish a cause-and-effect relationship because it lacks a longitudinal component. Its efficiency and ability to capture a snapshot of a population make it a valuable initial research tool.

153. (C) Applying nutritional principles to plan a diet for health or therapy.
Diet management is the practical process of applying scientific nutritional principles to plan a diet that meets an individual's health goals or manages a specific medical condition. It involves selecting appropriate foods, controlling portion sizes, and ensuring nutrient density to support overall well-being or recovery. Unlike generic advice, diet management is a systematic and individualized approach that translates nutritional science into sustainable daily habits. This process is essential for effectively managing chronic diseases and improving clinical outcomes through dietary changes.

154. (A) It is crucial for muscle repair and synthesis after exercise.
Protein plays a vital and specialized role in sports nutrition, primarily by supporting the repair and synthesis of muscle tissue after physical activity. During exercise, muscle fibers can experience stress and damage, and adequate protein intake is essential for the recovery process and building lean muscle mass. While carbohydrates provide the energy for the activity, protein ensures the body can recover effectively and adapt to the training demands. Ensuring appropriate protein intake is essential for athletes at all levels of competition.

155. (A) P-3, Q-4, R-1, S-2
Each stage of the human life cycle is associated with distinct physiological changes that influence nutritional needs. Pregnancy involves increased blood volume and placental growth, while lactation demands more energy for milk production. Old age is marked by a decreased metabolic rate and loss of lean body mass. Adolescence is characterized by hormonal changes and a rapid growth spurt. Recognizing these specific physiological shifts is essential for providing accurate nutritional guidance and support that meets the changing demands of the body.

156. (B) Help individuals consume a variety of foods to ensure nutrient adequacy.
The primary purpose of the food group system is to provide a simple and effective framework for planning a balanced diet. By categorizing foods based on their nutrient content, this system encourages individuals to include a variety of different items in their daily intake. This approach ensures that the body receives all the essential vitamins, minerals, and energy needed for optimal health. Using food groups helps prevent dietary monotony and reduces the risk of nutritional deficiencies, making it easier to maintain a healthy lifestyle.

157. (C) Iodine
Iodine is a critical mineral required for the production of thyroid hormones that regulate brain development and growth. A deficiency in this nutrient is the leading cause of preventable brain damage in newborns globally. Iodine deficiency disorders can lead to cretinism and other significant cognitive and physical impairments. Ensuring that pregnant women and infants receive adequate iodine through fortified salt or other sources is a major public health priority to support healthy development and improve educational outcomes for the next generation.

158. (D) Curative treatment focused on individuals in a private setting.
Public health nutrition is characterized by its broad focus on entire populations and the prevention of nutritional problems through large-scale policies and community-based interventions. It involves government action, community participation, and a strong orientation toward preventing chronic diseases and malnutrition. Unlike clinical nutrition, which may prioritize curative treatment for individuals in a private setting, public health nutrition aims for systemic changes that improve the health environment for everyone. Understanding this collective focus is essential for implementing successful public health strategies and programs.

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159. (A) Antibodies and immune factors.
Colostrum is the initial milk produced by the mother immediately after delivery, and it is critically important for the health of the newborn. It is exceptionally rich in antibodies and immune factors that provide the infant's first protection against infections. Additionally, colostrum contains essential nutrients and growth factors that support the initial development of the digestive system. Ensuring that infants receive colostrum is a fundamental step in promoting a healthy start to life and building a strong immune foundation for the child.

160. (A) Both A and R are true and R is the correct explanation of A.
During a food shortage emergency, providing nutrient-dense foods is a high priority for general food distribution. These foods offer more essential vitamins and minerals per calorie, which is vital for preventing widespread malnutrition and mortality in affected populations. Nutrient-dense options are more effective than empty-calorie foods at meeting the high physiological demands caused by the stress of a disaster. Ensuring access to high-quality food energy is a key strategy for maintaining health and supporting the survival of vulnerable groups during an emergency response.

161. (B) The individual's food intake over the previous day.
A 24-hour dietary recall is a commonly used technique in nutritional assessment where an individual reports all the foods and beverages they consumed during the previous day. This method provides health professionals with detailed information about a person's actual dietary intake, helping to estimate nutrient adequacy and identify eating patterns. While it relies on memory, it is a quick and effective tool for collecting data in both clinical and community settings. This information is essential for tailoring nutritional advice and monitoring dietary changes over time.

162. (A) Reduce stunting, under-nutrition, and anemia in targeted groups.
The National Nutrition Mission, also known as POSHAN Abhiyaan, is a flagship program in India aimed at improving the nutritional status of children, pregnant women, and lactating mothers. Its primary objectives include reducing the prevalence of stunting, under-nutrition, and anemia through a coordinated, multi-sectoral approach. By focusing on the first 1,000 days of life and using technology to monitor progress, the mission aims to achieve specific nutritional targets. This comprehensive initiative is critical for building a healthier and more productive future for the country's citizens.

163. (C) Gluten
For individuals diagnosed with celiac disease, a strict, lifelong gluten-free diet is the only effective treatment. This therapeutic diet requires the total avoidance of all foods containing gluten, which is a protein found in wheat, barley, and rye. Even small amounts of gluten can trigger an autoimmune reaction that damages the lining of the small intestine and leads to malabsorption. Adhering to this diet is essential for preventing symptoms, allowing the intestine to heal, and reducing the risk of long-term health complications.

164. (A) Both Statement I and Statement II are true.
Diet counseling and diet management are two complementary processes used to improve an individual's nutritional health. Counseling involves a professional interaction to provide guidance and advice, while management focuses on the practical planning and implementation of dietary changes. Together, they help individuals move from understanding nutritional information to applying it in their daily lives. By addressing both the educational and practical aspects of nutrition, these processes facilitate sustainable behavioral changes and better health outcomes for both well and sick individuals across various settings.

165. (A) a, b, c, and d
Scientific research in nutrition is built on fundamental principles that ensure the validity and integrity of the findings. These include having a clear and testable question, using a rigorous and systematic methodology, and interpreting the data objectively without bias. Additionally, all research must strictly adhere to ethical guidelines to protect the rights of participants. These principles provide the framework for building a reliable body of knowledge that guides dietary recommendations and improves clinical

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care. Mastering these fundamentals is essential for conducting high-quality research.

166. (B) An unbalanced diet.
An unbalanced diet is characterized by an excessive intake of processed foods high in sugar, salt, and unhealthy fats, while lacking essential components like fruits, vegetables, and whole grains. This type of eating pattern does not provide the correct proportions of nutrients needed for optimal health and can increase the risk of chronic diseases. Prioritizing nutrient density and variety is essential for achieving a balanced diet that supports the body's physiological needs. Identifying and correcting unbalanced patterns is a key goal of nutritional counseling and public health.

167. (D) Vitamin C
Vitamins are classified as either water-soluble or fat-soluble based on how they are absorbed and processed by the body. Vitamin C is a well-known water-soluble vitamin, meaning it dissolves in water and is not stored in large amounts in the body. Because excess amounts are excreted through urine, regular daily intake through foods like citrus fruits and vegetables is necessary. Vitamin C is vital for immune function, collagen synthesis, and antioxidant protection, making it an essential part of a healthy diet.

168. (A) Community nutrition focuses on populations, while clinical nutrition focuses on individuals.
While community nutrition and clinical nutrition share many principles, they differ primarily in their target and scope. Community nutrition focuses on improving the health and nutritional status of entire populations and groups through education and large-scale programs. In contrast, clinical nutrition focuses on providing individualized dietary therapy to treat or manage specific medical conditions in patients. Both fields are essential for improving public health, but they operate at different levels of intervention to address diverse nutritional challenges and promote well-being across society.

169. (C) Ensuring adequate intake for proper growth and cognitive development.
Childhood is a critical period of physical and cognitive development that requires an adequate intake of all essential nutrients. Ensuring that children receive enough energy, protein, vitamins, and minerals is vital for supporting their rapid growth and the maturation of their brains and nervous systems. Insufficient nutrition during these early years can have long-lasting effects on learning ability and overall health. Developing healthy eating habits during childhood provides a foundation for well-being into adolescence and adulthood, making it a primary nutritional priority.

170. (D) a, b, c, and d
Nutritional assessment involves a variety of techniques that provide different types of information about an individual's health status. These include measuring BMI for physical dimensions, using questionnaires to evaluate dietary intake, and analyzing blood samples for biochemical data. Additionally, checking for physical signs of deficiency, such as edema or eye spots, offers critical clinical information. When these techniques are used together, they provide a comprehensive and accurate view of nutritional status, which is essential for diagnosing malnutrition and developing effective health interventions.

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171. (D) Distribute essential food grains at subsidized prices to the poor.
The Public Distribution System is a major food-based nutritional intervention in India aimed at ensuring food security for vulnerable households. Its primary role is to distribute essential food grains, such as wheat and rice, at subsidized prices to the poor. By making basic staples more affordable and accessible, the system helps to reduce the prevalence of hunger and support the nutritional needs of millions. The PDS is a critical component of national efforts to combat poverty and improve the health of the population.

172. (B) High blood pressure (hypertension).
The DASH (Dietary Approaches to Stop Hypertension) diet is a specialized therapeutic eating plan designed to help manage and prevent high blood pressure. It emphasizes the intake of fruits, vegetables, whole grains, and lean proteins while significantly reducing sodium, sweets, and saturated fats. This evidence-based approach has been shown to be highly effective in lowering blood pressure and improving overall heart health. By prioritizing specific nutrient-dense

foods, the DASH diet provides a practical and nutritional way to manage hypertension and its related health risks.

173. (B) Developing practical strategies and plans to implement changes.
In the context of diet counseling, the 'management' component refers to the practical phase of translating nutritional advice into achievable strategies and plans. It involves working with the client to identify barriers and develop specific solutions that fit their lifestyle and preferences. This process is essential for helping individuals implement sustainable dietary changes that improve their health. By focusing on practical management, diet counseling moves beyond providing information to empowering clients with the tools they need to successfully manage their own nutrition and well-being.

174. (D) A specific, testable prediction about the outcome of the study.
In scientific research, a hypothesis is a clear and testable prediction about the expected relationship between variables or the outcome of a study. It serves as a guide for the entire research process, helping to define the methodology and data collection procedures. A well-formulated hypothesis allows researchers to focus their investigation and objectively determine whether the evidence supports their initial prediction. This systematic approach is fundamental for building reliable scientific knowledge and reaching sound conclusions in the field of nutrition and dietetics.

175. (A) 3, 4, 2, 1
The food pyramid is organized into layers that represent the recommended proportions of different food groups for a balanced diet. At the broad base are cereals and grains, which should form the largest portion of daily intake. Above this are fruits and vegetables, followed by a layer of proteins including meat, beans, and eggs. At the narrow apex are fats, oils, and sweets, which should be consumed sparingly. This structure provides a simple visual guide for making healthier and more nutritionally balanced food choices.

176. (B) It provides a concentrated source of energy and aids in the absorption of fat-soluble vitamins.
Fats and oils play several critical roles as essential nutrients in the body. They provide a concentrated source of energy, offering more calories per gram than carbohydrates or proteins. Additionally, dietary fats are necessary for the absorption of fat-soluble vitamins and provide essential fatty acids that the body cannot produce on its own. Fats also play a role in insulation and the protection of vital organs. Including appropriate amounts of healthy fats in a balanced diet is vital for maintaining physiological health.

177. (B) The nutritional needs of populations affected by natural disasters, conflicts, or famines.
Nutrition in emergencies is a specialized field that focuses on meeting the nutritional needs of populations caught in natural disasters, conflicts, or famines. The primary goal is to prevent starvation, severe malnutrition, and related diseases during the most critical phases of a crisis. This involves providing adequate energy, safe water, and essential micronutrients through large-scale food distribution and targeted therapeutic feeding. Addressing the unique challenges of emergency situations is critical for reducing mortality and maintaining the health of the most vulnerable affected groups.

178. (A) Low height for age.
Stunting is a significant indicator of chronic malnutrition in children and is defined as having a low height for one's age. It results from a long-term failure to receive adequate nutrition and frequent infections, particularly during the first 1,000 days of life. Stunting can have lasting effects on physical health, cognitive development, and economic potential. Reducing the prevalence of stunting is a major goal of national nutrition programs, as it is a critical step in improving the overall well-being and productivity of future generations.

179. (D) Statement I is false but Statement II is true.
Adolescence is a period of exceptionally rapid physical growth and development, second only to infancy, which significantly increases the body's nutritional requirements. During this time, the onset of the growth spurt and hormonal changes demand higher levels of energy, protein, vitamins, and minerals to support maturing organ systems and skeletal development. Meeting these heightened needs is essential for

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healthy maturation and preventing long-term deficiencies. Understanding the intensity of growth during adolescence is fundamental for providing appropriate nutritional guidance to support this critical stage of life.

180. (D) An interview study exploring mothers' beliefs about infant feeding.
Qualitative research designs focus on exploring and understanding individual experiences, beliefs, and behaviors through methods like interviews or focus groups. An example of this in nutrition is a study that explores mothers' beliefs and practices regarding infant feeding. Unlike quantitative research, which focuses on numerical data and statistical analysis, qualitative studies provide deep insights into the "why" behind dietary choices. This information is invaluable for developing culturally sensitive and effective nutritional interventions and programs that address the actual needs of specific groups.

181. (C) An in-depth investigation of a single individual, group, or event.
A case study is an in-depth research design that focuses on a detailed investigation of a single individual, group, or specific event. In nutritional research, case studies can provide valuable insights into rare conditions or the effects of unique dietary interventions. While they cannot be used to generalize findings to a whole population, they are excellent for generating hypotheses and exploring complex issues in detail. This detailed approach allows researchers to understand the nuances of a particular case, which can lead to new scientific discoveries.

182. (B) A significant decrease in the basal metabolic rate.
Pregnancy involves several profound physiological changes to support the growing fetus, including an increase in maternal blood volume and the development of the placenta. These changes, along with hormonal shifts, lead to an increase in the mother's basal metabolic rate and overall nutritional demands. Understanding these shifts is essential for providing appropriate nutritional support during pregnancy. Any suggestion that the metabolic rate decreases during this time is incorrect, as the body actually requires more energy and nutrients to maintain both maternal health and fetal development.

183. (D) Individualization.
The most important principle in diet management is individualization, as every person has unique nutritional needs, preferences, and health goals. A one-size-fits-all approach is often ineffective because it fails to account for differences in lifestyle, culture, and medical conditions. By tailoring a nutritional plan to the specific individual, health professionals can create a strategy that is both realistic and sustainable. Individualized care empowers the person to make meaningful dietary changes that are more likely to lead to long-term success and improved health.

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184. (A) Have higher energy needs and must time nutrient intake carefully.
Sports nutrition differs from general healthy eating guidelines because the high physical demands of training and competition create unique requirements. Athletes generally have much higher energy needs and must focus on the timing of their nutrient intake to optimize performance and recovery. This involves strategically consuming carbohydrates for fuel and protein for muscle repair around exercise sessions. Additionally, maintaining proper hydration is critical for safety and athletic function. Tailoring nutrition to these specific demands is essential for any athlete aiming to achieve peak physical performance.

185. (B) P-3, Q-4, R-1, S-2
Nutrition involves several key concepts that are fundamental for health and clinical practice. A balanced diet contains all nutrients in the correct proportions, while food security ensures access to safe and nutritious food. A therapeutic diet is modified to meet the needs of a sick individual, and nutritional assessment evaluates a person's status. Understanding these terms provides the foundation for effective nutritional management and public health interventions. These concepts are essential for anyone working to improve the nutritional well-being of individuals or communities.

186. (A) Cereals and grains.
In the food pyramid, the foundation or broad base is composed of cereals and grains, indicating that these should form the largest portion of a balanced diet. These foods provide essential

the burden of diet-related health problems. This proactive approach is essential for creating healthier environments and supporting positive and sustainable lifestyle changes for everyone.

200. (B) a, b, and d
Several common beliefs regarding nutrition through the life span are incorrect and can lead to poor health outcomes. For example, colostrum is actually highly beneficial for newborns as it is rich in antibodies. Additionally, nutritional needs change significantly from infancy through adolescence and into old age, so they are not the same for all groups. Weaning should ideally begin at six months, not two years. Understanding these accurate nutritional principles is essential for providing appropriate support and promoting healthy development and aging for all individuals.

201. (C) The contamination of food and water supplies, leading to waterborne diseases.
In emergency situations like floods, a major nutritional and health concern is the potential contamination of food and water supplies. This often leads to an increased risk of waterborne diseases, such as cholera or diarrhea, which can cause rapid dehydration and interfere with nutrient absorption. Ensuring access to safe drinking water and maintaining food hygiene are highest priorities during the initial relief phase. Addressing these risks is critical for preventing widespread illness and maintaining the nutritional health and survival of the affected population.

202. (A) Clinical.
In the ABCD model of nutritional assessment, 'C' stands for Clinical, which involves looking for physical signs and symptoms of malnutrition during a medical examination. These signs can include changes in the skin, hair, or eyes, such as Bitot's spots or edema. Clinical assessment provides valuable information about the physical impact of nutritional deficiencies on the body. When used together with anthropometric, biochemical, and dietary data, clinical observations help health professionals form a complete and accurate diagnosis and develop effective nutritional interventions for individuals.

203. (D) Multi-sectoral coordination, political will, and adequate funding.
The success of any national nutrition policy depends on several key factors, including strong political will and adequate funding to support large-scale programs. Additionally, multi-sectoral coordination is essential, as addressing malnutrition requires efforts across various sectors like health, agriculture, and education. By working together, different government departments can create a more comprehensive and sustainable approach to improving the country's nutritional status. These coordinated efforts are critical for achieving long-term improvements in public health and ensuring the well-being of all citizens.

204. (B) A facilitator and educator who empowers clients.
An effective diet counselor acts as a facilitator and educator, helping clients understand nutritional information and how to apply it to their lives. Rather than a purely authoritative figure, the counselor works in partnership with the individual to set realistic goals and develop sustainable habits. This approach empowers clients to take an active role in managing their own nutrition and health. By providing support and guidance, the counselor helps individuals overcome barriers and achieve lasting behavioral changes that lead to improved well-being.

205. (C) A framework for collecting and analyzing data to answer questions.
A research design is a fundamental part of any scientific study, providing the overall framework for how data will be collected and analyzed. It serves as a blueprint that ensures the study is structured in a way that can reliably answer the initial research question. By defining the methodology in advance, the design helps to minimize bias and improve the internal validity of the findings. A clear and appropriate research design is essential for reaching sound and scientifically valid conclusions in any field.

206. (D) Nutritional status during one stage of life can significantly impact health in subsequent stages.
A key principle of nutrition through the life span is that the health and nutritional status of an individual at one stage can have a significant impact on their well-being in later years. For example, adequate nutrition during infancy and childhood provides a foundation for

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193. (B) Guide a client to make informed decisions about food and lifestyle.
The primary purpose of diet counseling is to act as a facilitator, guiding a client toward making informed decisions about their food choices and lifestyle. Rather than an authoritarian approach, effective counseling is a collaborative process that empowers the individual to take charge of their own health. By providing education, setting realistic goals, and building trust, the counselor helps the client develop the skills and motivation needed for sustainable behavioral change. This individualized support is essential for improving nutritional status and managing various health conditions.

194. (D) Statement I is false but Statement II is true.
Scientific research is a systematic and objective investigation of phenomena to discover new facts and interpret them accurately. Its purpose is not to prove pre-conceived notions but to seek knowledge through rigorous and unbiased methods. In nutrition, research helps to validate or challenge existing beliefs, leading to more accurate dietary recommendations and clinical practices. This continuous process of inquiry is essential for the advancement of scientific understanding and the improvement of health outcomes for individuals and populations through evidence-based nutritional science and policy.

195. (C) a, b, c, and d
Ensuring healthy development from conception through adolescence requires addressing several critical nutritional areas. These include the maternal status during pregnancy, the practice of exclusive breastfeeding in infancy, and the timely introduction of appropriate complementary foods. Additionally, meeting the intense demands of the adolescent growth spurt is essential for physical and cognitive health. Nutritional needs change significantly during these various stages, making targeted support vital. Addressing these areas together provides a strong foundation for health and well-being that can last throughout the entire life span.

196. (D) A food allergy involves the immune system, while an intolerance typically does not.
In clinical nutrition, it is important to distinguish between a food allergy and a food intolerance. A food allergy is a specific immune system reaction to a protein in a food, which can sometimes be severe or even life-threatening. A food intolerance, such as lactose intolerance, is generally a digestive issue where the body cannot properly break down a certain food component. Understanding this difference is essential for accurate diagnosis and providing appropriate dietary guidance and management to ensure the individual's safety and comfort.

197. (C) Iron
Nutrients are categorized into macro and micro groups based on the amounts required by the human body. Macronutrients like carbohydrates and proteins are needed in large quantities for energy and structure. Iron, however, is a micronutrient, which means it is required in much smaller amounts but is still critical for essential functions like oxygen transport in the blood. While all nutrients are necessary for life, understanding their classification helps in appreciating the specific roles they play in maintaining health and preventing deficiency-related conditions.

198. (B) Physical activity level
Nutrient requirements, particularly for energy, are not uniform but vary significantly based on an individual's level of physical activity. A person engaged in heavy manual labor has a much higher energy demand compared to someone in a sedentary job, as the body needs more fuel to support intense muscle work. These differences are reflected in dietary recommendations, which account for the total energy expenditure. Recognizing how activity levels influence nutritional needs is essential for planning appropriate diets that maintain energy balance and support overall health.

199. (D) Promoting health and preventing disease in specific population groups.
The primary objective of community nutrition interventions is to promote health and prevent disease across specific segments of the population. This is achieved through targeted programs, education, and resource distribution that address the unique nutritional challenges of different groups. By focusing on prevention and the community as a whole, these interventions aim to improve the collective well-being and reduce

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energy through complex carbohydrates and are a significant source of fiber and certain vitamins. By making cereals and grains the base of the diet, individuals can meet their primary energy needs while supporting overall health. Prioritizing whole grains over refined ones further enhances the nutritional value and long-term health benefits of the daily diet.

187. (D) Recommended Dietary Allowance
RDA stands for Recommended Dietary Allowance, which represents the daily intake level of a nutrient that is sufficient to meet the requirements of nearly all healthy individuals in a specific group. In India, these guidelines are established by the ICMR-NIN to provide targets for a healthy population. RDAs account for various factors like age, gender, and physiological status. These recommendations are essential for planning balanced diets, assessing nutritional status, and developing national nutrition policies and programs aimed at promoting optimal health across the country.

188. (B) Developing and evaluating population-level nutrition programs.
Public health nutrition is focused on improving the nutritional status of entire populations through large-scale interventions. A core activity in this field is the development and evaluation of programs aimed at addressing widespread health challenges like malnutrition or chronic diseases. This involves using scientific evidence to create effective policies and assessing their impact on the community. By focusing on population-level changes, public health nutritionists aim to create healthier environments and promote well-being for all members of society through coordinated and evidence-based efforts.

189. (C) The age-related loss of muscle mass and strength.
Sarcopenia is a major nutritional and health concern during old age, characterized by the progressive loss of skeletal muscle mass and strength. This condition can lead to increased frailty, a higher risk of falls, and a loss of functional independence in the elderly. It is often influenced by a combination of physiological changes, reduced physical activity, and insufficient protein intake. Addressing sarcopenia through adequate nutrition, particularly high-quality protein, and regular strength training is essential for supporting health and maintaining the quality of life as individuals age.

190. (A) Both A and R are true and R is the correct explanation of A.
A low-sodium diet is a fundamental therapeutic recommendation for individuals with hypertension because of the direct link between sodium and blood pressure. High sodium intake can lead to fluid retention, which increases total blood volume and places more pressure on the vessel walls. By reducing salt intake, the body can more effectively manage fluid balance and lower blood pressure. This nutritional intervention is a critical part of managing heart health and reducing the risk of complications like stroke and heart disease in affected individuals.

191. (A) Biochemical.
In the ABCD model of nutritional assessment, 'B' stands for Biochemical. This component involves the analysis of nutrients or their metabolites in biological samples like blood or urine. Biochemical tests provide objective and direct data on an individual's internal nutritional status, often detecting subclinical deficiencies before physical signs appear. For example, measuring serum ferritin levels can identify iron deficiency early. When used alongside anthropometric, clinical, and dietary assessments, biochemical data helps health professionals develop a complete and accurate understanding of a person's nutritional health.

192. (B) The Integrated Child Development Services (ICDS).
The Integrated Child Development Services is a major national nutrition program in India aimed at improving the health and well-being of young children and their mothers. It provides a comprehensive package of services, including supplementary nutrition, immunization, and health check-ups. By targeting vulnerable groups like pregnant women and children under six, ICDS addresses critical stages of development and helps combat malnutrition. This program is a key component of national efforts to reduce child mortality and promote healthy growth and development across the country's diverse populations.

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healthy development and can reduce the risk of chronic diseases in adulthood. Recognizing this intergenerational link is essential for developing effective nutritional strategies and interventions. Focusing on every stage of development helps promote long-term health and productivity for the whole population.

207. (A) Sports nutrition is for athletes; community is for population health.
While sharing similar scientific foundations, sports nutrition and community nutrition differ in their primary focus and target audience. Sports nutrition is specialized to meet the unique energy and performance demands of athletes, focusing on timing and nutrient density for peak activity. Community nutrition, however, aims to improve the health and well-being of entire populations and groups through broad public health programs. Both fields are essential for promoting health, but they operate at different levels to address the specific needs of their target groups.

208. (B) Texture and consistency
For patients with dysphagia, or difficulty swallowing, modifying the texture and consistency of food is a primary therapeutic intervention. Changing solid foods to a pureed or thickened liquid form ensures that the individual can safely consume adequate nutrition without the risk of choking or aspiration. This specialized dietary modification is tailored to the patient's specific physiological needs and is essential for maintaining health and preventing complications during recovery. Texture modification is a fundamental part of clinical nutritional care for patients with swallowing disorders.

209. (B) A diet containing nutrients in the correct proportions for health.
A balanced diet is defined as one that provides all essential nutrients, including proteins, carbohydrates, fats, vitamins, and minerals, in the correct proportions for optimal health. It emphasizes variety and nutrient density, ensuring that the body receives the energy and materials needed for all physiological functions. Rather than eliminating specific groups, a balanced approach prioritizes a harmonious intake of various foods. This fundamental principle of nutrition is key to preventing deficiencies, supporting growth, and reducing the risk of chronic diseases throughout life.

210. (A) Vitamin D and/or Calcium
Rickets is a nutritional deficiency disease in children that primarily results from a lack of Vitamin D or calcium. These nutrients are essential for the proper development and mineralization of bones. Insufficient intake or limited sun exposure, which helps the body produce Vitamin D, can lead to soft and weakened bones, causing physical deformities and growth delays. Ensuring adequate intake of these nutrients through diet and appropriate sun exposure is vital for bone health and preventing this condition during the critical years of childhood growth.

211. (C) Have the greatest nutritional needs and highest risk of deficiency.
Public health nutrition programs often target vulnerable groups, such as infants, pregnant women, and the elderly, because they have the greatest nutritional needs and the highest risk of developing deficiencies. These groups face unique physiological demands that make them more susceptible to the impact of poor nutrition. By focusing resources and interventions on those at highest risk, public health initiatives can achieve the most significant and effective improvements in overall population health. Addressing the specific needs of the most vulnerable is a key strategy for reducing health disparities.

212. (C) Statement I is true but Statement II is false.
Nutrient requirements for Indians are detailed in guidelines published by the ICMR-NIN, known as Recommended Dietary Allowances. These guidelines are based on research specifically conducted on the Indian population, accounting for local body sizes, common dietary patterns, and typical activity levels. These local recommendations are essential for ensuring that nutritional advice and policies are appropriate for the specific needs of the country's citizens. Accurate adherence to these evidence-based guidelines is vital for promoting health and preventing nutritional deficiencies across diverse groups in India.

213. (C) A combination of carbohydrates to replenish glycogen and protein to repair muscle.

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240. (B) It is the same as general healthy eating advice for the public.
Clinical nutrition is a specialized field that provides evidence-based dietary therapy tailored to an individual's specific medical diagnosis and physiological needs. It differs significantly from general healthy eating advice, which is aimed at the whole population. Clinical nutrition involves a thorough assessment of the patient's condition and can include advanced interventions like enteral or parenteral feeding. Integrating nutritional science into clinical care is essential for supporting medical treatment, managing chronic diseases, and supporting the recovery process in various healthcare and hospital settings.

241. (B) They provide a concentrated source of energy, essential fatty acids, and help absorb fat-soluble vitamins.
Fats and oils play several vital and diverse roles in a balanced and healthy diet. They serve as a highly concentrated source of dietary energy and provide essential fatty acids that the human body cannot produce on its own. Additionally, fats are necessary for the effective absorption of fat-soluble vitamins like A, D, E, and K. They also play a role in structural functions and organ protection. Including appropriate amounts of healthy fats in the diet is essential for maintaining overall physiological function and well-being.

242. (A) Carbohydrate - Primary energy source
Each nutrient performs a specific and essential role in maintaining the health and function of the human body. Carbohydrates serve as the primary and most efficient source of dietary energy for metabolic processes and physical activity. Other nutrients also have critical roles, such as calcium for bone health and Vitamin K for blood clotting. Understanding these direct relationships is fundamental for planning a balanced diet that meets all physiological needs. Correctly pairing nutrients with their functions is a core principle of nutritional science and education.

243. (C) The population
Public health nutrition is a specialized field with a primary focus on improving the health and nutritional status of entire populations through large-scale policies and programs. Unlike clinical nutrition, which prioritizes the health of individuals, public health nutrition aims to address widespread health challenges across society. This involves implementing strategies like food fortification, nutrition education, and policy changes to create healthier environments for everyone. By focusing on the collective level, this field aims to reduce health disparities and promote well-being for all members of society.

244. (D) Maternal and fetal anemia.
Ensuring an adequate intake of iron during pregnancy is a primary nutritional priority to prevent both maternal and fetal anemia. This mineral is essential for producing the extra red blood cells needed to support the mother's increased blood volume and the growth of the fetus and placenta. Anemia during pregnancy can increase the risk of complications and impact the health and development of the newborn. Providing appropriate iron-rich foods or supplements is a fundamental intervention to support healthy pregnancy outcomes and overall maternal and child well-being.

245. (C) Depletion of muscle glycogen stores leading to fatigue.
In sports nutrition, the phrase 'hitting the wall' refers to a state of extreme fatigue and a sudden drop in performance that occurs during prolonged endurance exercise. This condition is primarily caused by the depletion of the body's muscle and liver glycogen stores, which are the main sources of fuel for intense activity. Once these stores are used up, the body must switch to less efficient energy sources, leading to a loss of physical and mental energy. Proper fueling strategies are essential for delaying this fatigue.

246. (B) 24-hour dietary recall
A 24-hour dietary recall is a subjective nutritional assessment technique that relies on an individual's memory to report all foods and beverages consumed over the previous day. While it is a quick and commonly used method, it is susceptible to errors in reporting and may not reflect long-term eating patterns. Other techniques, such as anthropometric measurements or biochemical tests, provide more objective data on physical or internal status. Understanding the strengths and limitations of different assessment methods is essential for accurately evaluating an individual's nutritional health and needs.

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essential for meeting all nutritional requirements through daily food choices.

220. (D) A is false but R is true.
In the research process, selecting an appropriate research design is not the first step but follows the formulation of a clear research problem or question. The design serves as a framework or plan to solve that specific problem, so it must be tailored to the nature of the inquiry. A well-constructed design ensures that the data collection and analysis are appropriate for the study's goals. Understanding this logical sequence is essential for conducting high-quality scientific research that leads to valid and reliable conclusions in any field.

221. (C) Protein
Protein is often synonymous with the term "body-building food" because of its critical role in the growth, repair, and maintenance of all body tissues. It provides the essential amino acids needed to build new muscle, skin, and organs, and to produce hormones and enzymes. While carbohydrates and fats provide energy, protein is fundamental for the body's structural integrity and biological function. Ensuring an adequate intake of high-quality protein through a balanced diet is essential for healthy growth and development throughout all life stages.

222. (D) Emergence of micronutrient deficiencies.
In prolonged disaster scenarios, the emergence of micronutrient deficiencies is a major nutritional concern. When populations rely on limited or monotonous food aid for extended periods, they may not receive enough essential vitamins and minerals, leading to deficiency diseases like scurvy or anemia. While providing adequate food energy is the highest immediate priority, addressing these long-term micronutrient needs is critical for maintaining the health and resilience of the affected population. Targeted fortification or supplementation is often required to prevent widespread nutritional problems in these challenging environments.

223. (A) Calculating the Body Mass Index (BMI) from height and weight.
Anthropometric assessment is a non-invasive method for evaluating nutritional status by measuring physical dimensions of the body. A common example is calculating the Body Mass Index from an individual's height and weight. This simple tool helps categorize individuals into weight-related health groups and identify potential risks for malnutrition or obesity. Because anthropometric measurements are relatively easy to perform, they are widely used in both clinical and community settings to monitor growth and health status across all ages and diverse population groups worldwide.

224. (B) A program designed to improve the status of a target population.
A nutritional intervention is a structured program or activity designed to improve the health and nutritional status of a specific target population. These interventions can range from large-scale efforts like food fortification and national education campaigns to targeted programs for vulnerable groups. The goal is to address identified nutritional problems, such as deficiencies or undernutrition, through evidence-based strategies. By implementing these programs, health professionals and policymakers aim to improve public health outcomes and promote the well-being of communities and society as a whole.

225. (C) a, b, and c
Managing Type 2 diabetes through therapeutic nutrition requires an individualized approach that focuses on maintaining stable blood glucose levels. This often involves using carbohydrate counting or a diabetic exchange system to manage nutrient intake while providing dietary variety. The primary goal is to keep blood sugar as close to normal as possible to prevent long-term complications. This dietary strategy is not temporary but is part of a lifelong commitment to healthy eating and lifestyle management. Providing structured and evidence-based guidance is essential for successful diabetes management.

226. (A) Before conception and in the first trimester of pregnancy.
The most critical time for folic acid supplementation to prevent neural tube defects is during the period before conception and through the first trimester of pregnancy. This B-vitamin is essential for the proper development of the fetal nervous system, and the neural tube closes

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Post-exercise nutrition is critical for an athlete's recovery and long-term performance. The ideal approach includes a combination of carbohydrates and protein consumed shortly after physical activity. Carbohydrates are needed to replenish the body's glycogen stores that were used for energy, while protein provides the necessary materials to repair and rebuild muscle tissue. This strategic nutrient intake supports the recovery process and helps the body adapt to the demands of training. Proper post-exercise nutrition is essential for any athlete aiming to achieve peak physical function.

214. (B) Systematic, objective, and reproducible.
The fundamental principle of any scientific research is that it must be systematic, objective, and reproducible. This means that the investigation follows a logical and structured plan, that the data is interpreted without personal bias, and that other researchers can repeat the study to achieve similar results. These qualities ensure that the findings are reliable and contribute valuable knowledge to the field of nutrition. Adhering to these rigorous scientific standards is essential for building a body of evidence that guides accurate clinical practices and effective public health policies.

215. (B) P-3, Q-4, R-1, S-2
India has several national programs designed to address specific nutritional challenges across the population. The Mid-Day Meal Scheme provides cooked meals to school children to improve nutrition and attendance, while the Public Distribution System offers subsidized food grains. The National Iodine Deficiency Disorders Control Programme focuses on salt iodization, and the National Nutrition Mission aims to reduce stunting and anemia. Understanding these initiatives and their primary objectives is essential for improving public health and addressing malnutrition through targeted and multi-sectoral government interventions and programs.

216. (A) Onset of the growth spurt.
A key physiological event during adolescence is the onset of the growth spurt, which dramatically increases the body's requirements for energy and essential nutrients. This period of rapid physical development, second only to infancy, creates high demands for protein, calcium, and iron to support maturing organ systems and skeletal growth. Meeting these heightened needs is essential for healthy development and preventing long-term deficiencies. Understanding the intensity of growth during the teenage years is fundamental for providing appropriate nutritional support and promoting healthy maturation throughout the transition to adulthood.

217. (C) Translating nutritional science into practical and achievable plans.
A major component of diet management in clinical settings is the process of translating complex nutritional science into practical and achievable plans for individuals. This involves tailoring a dietary strategy to the person's specific medical diagnosis, physiological needs, and personal lifestyle. By focusing on practical strategies, health professionals can help patients implement sustainable changes that support their recovery and health goals. This individualized and evidence-based approach is essential for providing effective nutritional care and improving clinical outcomes for patients with various medical conditions.

218. (A) Exclusivity.
Food and nutrition security is built on three fundamental pillars: availability, access, and utilization. Availability refers to the presence of sufficient food, while access ensures that everyone has the means to acquire it. Utilization focuses on the body's ability to absorb and use nutrients for health. However, exclusivity is not a part of this concept; in fact, the goal of food security is inclusivity, ensuring that all people have access to safe and nutritious food at all times for a healthy life.

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219. (D) Vitamins and Minerals
Basic food group classifications categorize items based on their nutrient profiles and botanical or biological origins, such as cereals, fruits, and proteins. These groups are used to help plan a balanced and varied diet. While vitamins and minerals are essential nutrients found within these foods, they are not considered a "food group" themselves. Instead, they are micronutrients that are provided by consuming a wide variety of items from the established food groups. Understanding these categories is

development creates a high demand for energy, protein, and essential micronutrients to support developing organ systems and brain function. Because their stomach capacity is small, infants must receive nutrient-dense foods, starting with breast milk. Meeting these heightened needs is essential for ensuring healthy growth and cognitive development during this most critical stage of life.

234. (A) Prioritizing intensive care for the most severely malnourished first.
In public health emergencies, 'triage' for nutritional support involves a systematic process of identifying and prioritizing individuals based on the severity of their condition. The highest priority is given to providing intensive care and therapeutic feeding to the most severely malnourished first to prevent mortality. This efficient allocation of limited resources ensures that those at the greatest risk of death receive the most immediate attention. Triage is a critical component of emergency management, helping to reduce the overall impact of malnutrition during humanitarian crises.

235. (B) 2, 4, 1, 3
Managing a new patient for therapeutic nutrition follows a logical sequence of stages to ensure effective care. The process begins with a thorough assessment of nutritional status and dietary history, followed by the formulation of a specific diagnosis and diet plan. Once the plan is established, it is implemented, and then regularly monitored and evaluated to track progress and make necessary adjustments. This systematic and evidence-based approach is essential for providing individualized nutritional support that meets the specific medical needs and goals of the patient.

236. (B) The proportion of the nutrient that is absorbed and utilized by the body.
The bioavailability of a nutrient refers to the actual proportion of the amount consumed that is successfully absorbed by the digestive system and utilized for metabolic processes. This can be influenced by several factors, including the chemical form of the nutrient, the presence of other food components, and an individual's overall health status. Understanding bioavailability is essential for accurately assessing the nutritional value of different foods and developing effective dietary recommendations and fortification strategies to ensure that the body receives the necessary nutrients.

237. (C) Purpose
In scientific research, the 'objective' of a study is synonymous with its 'purpose', defining the overall goal and the specific question or problem the investigation aims to address. Clear objectives provide a roadmap for the research process, helping to guide the selection of appropriate methods and data collection procedures. By defining what the study hopes to achieve, researchers can focus their efforts and objectively evaluate the findings. Well-defined objectives are essential for conducting a systematic and valid scientific study that contributes valuable knowledge to nutrition.

238. (D) To work with the client to identify barriers and develop solutions.
A key step in the management phase of diet counseling is to work collaboratively with the client to identify potential barriers to change and develop practical solutions. This problem-solving approach respects the individual's unique circumstances and empowers them to take an active role in their own nutrition. By focusing on specific challenges and creating actionable strategies, the likelihood of sustainable behavioral change is significantly increased. This partnership-based model is essential for the long-term success of nutritional interventions and improved health outcomes.

239. (A) Provide calories from sugar and fat with few other nutrients.
In nutrition, the term "empty calories" refers to foods and beverages that provide significant caloric energy primarily from sugars and unhealthy fats while containing few essential vitamins, minerals, or other beneficial nutrients. These items offer little nutritional value beyond their energy content and can contribute to weight gain and poor health if consumed in excess. Prioritizing nutrient-dense foods over empty-calorie options is a fundamental principle of a healthy and balanced diet, helping to prevent deficiencies and reduce the risk of chronic diseases.

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very early in gestation, often before a pregnancy is confirmed. Ensuring that all women of childbearing age have an adequate intake of folic acid is a primary public health recommendation for supporting healthy pregnancy outcomes and fetal development.

227. (C) Provides a clear and actionable plan for the client to monitor.
In diet counseling, using 'SMART' goals—Specific, Measurable, Achievable, Relevant, and Time-bound—is a key strategy for effective nutritional management. This approach provides the client with a clear and actionable plan that is easy to follow and monitor. By setting well-defined objectives, both the counselor and the client can track progress and identify areas for improvement. SMART goals increase the likelihood of success and sustainable behavioral change by making the goals realistic and relevant to the individual's unique lifestyle and needs.

228. (D) Randomized Controlled Trial (RCT)
The randomized controlled trial is considered the strongest research design for establishing a cause-and-effect relationship in nutritional science. By randomly assigning participants to either a treatment group or a control group, researchers can minimize bias and isolate the specific effect of a dietary intervention or supplement. This design provides high-quality evidence that can guide dietary recommendations and clinical practices. RCTs are essential for ensuring that nutritional advice is based on rigorous scientific evidence, leading to more effective and safe interventions for individuals and populations.

229. (C) Acting as co-factors for enzymes in metabolic pathways.
Micronutrients, including vitamins and minerals, perform several critical roles in the body despite being required in only small amounts. One fundamental function is acting as co-factors or co-enzymes for various metabolic pathways, facilitating biochemical reactions that are essential for life. While they do not provide energy directly like macronutrients, they are vital for regulating processes like energy production, immune function, and bone health. Ensuring an adequate intake of all micronutrients is necessary to maintain overall physiological function and prevent serious deficiency-related health problems.

230. (C) a, b, and c only
Community nutrition is a field primarily focused on the prevention of nutritional problems through group-based education and interventions. It addresses the needs of specific segments of society and involves activities like school health programs, worksite wellness, and health fairs. By focusing on groups rather than just individuals, community nutritionists aim to improve collective well-being and reduce the burden of diet-related diseases. This proactive and community-oriented approach is essential for creating healthier environments and supporting positive and sustainable lifestyle changes for people of all ages.

231. (D) Statement I is false but Statement II is true.
A balanced diet does not exclude all fats but instead includes appropriate amounts of essential and healthy fats from a variety of food groups. These nutrients are vital for several bodily functions, including energy provision and the absorption of fat-soluble vitamins. While excessive intake of certain fats can be harmful, healthy fats are a necessary component of a nutritionally complete diet. Prioritizing variety and nutrient density ensures that all essential components are included in the correct proportions to support overall health and function.

232. (A) Menstrual blood losses.
Iron requirements are higher for Indian women than for men primarily because of the regular blood losses associated with menstruation. These losses increase the body's demand for iron to produce new red blood cells and maintain healthy hemoglobin levels. Ensuring an adequate intake of iron through the diet is essential for preventing iron deficiency anemia, which is a common health concern for women of childbearing age. Tailoring nutritional recommendations to these specific physiological needs is vital for promoting health and well-being for all individuals.

233. (C) Infants
During the human life cycle, infants have the highest nutritional needs per unit of body weight due to their extremely rapid physical growth and high metabolic rate. This intense period of

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247. (D) The ability of households and individuals to acquire sufficient food.
The 'access' dimension of food and nutrition security refers to the social and economic ability of households and individuals to acquire enough safe and nutritious food to meet their dietary needs. This goes beyond the physical presence of food to include factors like income, infrastructure, and social support systems. Security is only achieved when food is not only available but also accessible to everyone, regardless of their circumstances. Addressing issues like poverty and food distribution is essential for ensuring that every person has a stable level of food security.

248. (A) Clinical and therapeutic nutrition
The DASH (Dietary Approaches to Stop Hypertension) diet is a prime example of clinical and therapeutic nutrition, as it is a structured eating plan specifically designed to treat and manage a medical condition. It uses evidence-based nutritional principles to lower blood pressure and improve heart health through food selection. This individualized and dietary approach is a critical part of the medical care for hypertension, helping patients achieve better health outcomes through sustainable daily habits. Therapeutic diets like DASH demonstrate the powerful role of nutrition in managing chronic health conditions.

249. (D) Statement I is false but Statement II is true.
Diet counseling is not an authoritarian process where a plan is dictated to a client; instead, it is a collaborative partnership built on trust and mutual respect. Effective counseling involves the client actively in setting goals and making decisions about their own nutrition and lifestyle. This partnership-based approach increases the likelihood of long-term adherence and sustainable behavioral changes. By empowering the individual through education and support, diet counseling helps them take charge of their health and achieve their nutritional goals in a more effective and meaningful way.

250. (A) Formulating a research question or identifying a problem.
The initial and most critical step in the research process is formulating a clear research question or identifying a specific problem that needs investigation. this foundational step defines the overall purpose and direction of the study, guiding the selection of an appropriate research design and methodology. A well-defined question allows researchers to focus their efforts and objectively evaluate the evidence collected. Starting with a clear and testable problem is essential for conducting a systematic and valid scientific investigation that contributes reliable knowledge to the field.

251. (B) To provide a visual guide for proportional consumption of food groups
The food pyramid serves as a graphical representation designed to simplify dietary recommendations for individuals. It illustrates the relative proportions of various food categories needed to maintain health. By placing staple foods at the broad base and fats at the narrow apex, it guides users to make choices that ensure a balanced intake of all essential nutrients daily.

252. (A) The quantity required by the body and their primary physiological role
The primary distinction between macronutrients and micronutrients lies in their quantitative needs and biological functions. Macronutrients, such as proteins and carbohydrates, are consumed in large amounts to provide energy and structural support. In contrast, micronutrients like vitamins are required in trace amounts primarily to regulate metabolic pathways and biochemical reactions essential for maintaining life.

253. (C) A diet that supplies essential nutrients in appropriate proportions for health
A balanced diet is characterized by its ability to provide the human body with all necessary nutrients in the correct proportions. This includes both macronutrients for energy and micronutrients for regulation. Achieving this balance is fundamental for supporting physiological growth, maintaining overall health, and ensuring that all bodily systems function optimally throughout the various stages of life.

254. (D) an impaired ability to regulate metabolic processes
Vitamins and minerals function as essential cofactors and coenzymes in numerous biochemical reactions. Although they are needed in small quantities, their absence disrupts the body's ability to manage its internal

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289. (D) conduct a comprehensive nutritional assessment
Before a dietitian can create an effective therapeutic diet, they must understand the patient's current health status. A comprehensive nutritional assessment is the necessary first step in this process. By analyzing the patient's medical history and physical condition, the dietitian can identify specific needs and risks, ensuring that the resulting nutrition plan is both safe and effective for the individual patient.

290. (A) Texture and consistency
Dietary modifications in clinical settings can involve changing the physical properties of food. For patients who have difficulty swallowing, a pureed diet is often prescribed. This modification focuses on the texture and consistency of the meals rather than their chemical composition. Adjusting the physical form of food ensures that the patient can consume necessary nutrients safely and without discomfort during their recovery.

291. (C) A collaborative and client-centered interaction
Diet counseling is fundamentally a collaborative process that places the client at the center of the interaction. It moves away from a rigid, prescriptive approach and instead focuses on building a relationship between the counselor and the individual. By using effective communication and education, the process empowers clients to take ownership of their health and make voluntary, positive changes to their lifestyle habits.

292. (A) setting goals, monitoring progress, and providing support
The management component of dietetic practice involves a structured and ongoing support system for the client. This includes working together to set achievable health goals and continuously monitoring progress over time. By providing regular guidance and assistance, the dietitian helps the individual stay motivated and navigate the various challenges that arise when trying to maintain a new and healthier way of eating.

293. (D) To help clients identify and overcome barriers to healthy eating
Behavioral modification techniques are essential tools in diet counseling used to address the psychological aspects of eating. These strategies help clients recognize the personal triggers and environmental barriers that make it difficult to stick to a healthy diet. Once these obstacles are identified, the client can develop practical coping mechanisms, making it easier to adopt and maintain long-term improvements in their nutrition.

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294. (B) supportive facilitator
In the context of diet counseling, a dietitian acts as a supportive facilitator rather than a strict authority figure. Their role is to provide the client with the necessary knowledge and skills while building their self-confidence. By guiding the individual through the process of change and offering encouragement, the facilitator helps the client make informed choices that fit their own unique lifestyle and preferences.

295. (C) To enable clients to make sustainable and practical dietary changes
The ultimate goal of diet counseling and management is to turn theoretical nutritional knowledge into real-world eating habits. This involves helping clients make practical and sustainable changes that they can maintain for the rest of their lives. By focusing on lasting lifestyle improvements rather than temporary fixes, the process ensures that the individual achieves a better state of health through consistent, healthy choices.

296. (D) To systematically generate and validate knowledge for practice and policy
Research in the fields of nutrition and dietetics is conducted to build a solid foundation of evidence-based knowledge. Its primary purpose is to systematically investigate health-related questions, which helps to validate existing theories or generate new ones. This ongoing scientific inquiry is essential for informing professional practices and guiding the development of effective public health policies that improve the well-being of populations.

297. (A) Reliability
Reliability is a fundamental principle of scientific research that refers to the consistency of study results. If a study is reliable, it should produce

263. (C) Developing a national policy to fortify salt with iodine to prevent goiter
A preventive approach in nutrition seeks to address health issues before they occur by modifying the environment or food supply. Fortifying a common staple, such as salt, with iodine is a classic public health strategy. This large-scale intervention aims to prevent widespread deficiency diseases like goiter across an entire population, demonstrating the shift from individual treatment to proactive community-wide prevention.

264. (D) the ability to influence policy and foster community action
The effectiveness of public health nutrition initiatives is largely contingent upon their ability to translate scientific evidence into actionable policy. Success requires more than just designing programs; it necessitates fostering community engagement and influencing governmental decisions. By creating supportive environments and encouraging collective action, these initiatives can achieve sustainable improvements in nutrition that individual efforts alone cannot provide to large populations.

265. (A) achieve long-term improvements in the health of entire populations
The primary objective of public health nutrition is to secure the long-term well-being of societies through organized efforts. By identifying nutritional risks and implementing large-scale policies, the discipline strives for sustained health improvements. This goes beyond immediate relief or individual care, focusing on creating permanent changes in dietary patterns and food accessibility to ensure health and prevent disease for whole communities.

266. (B) Infancy
Infancy is the developmental stage characterized by the most intensive physical growth in the human lifecycle. During this time, the body's demands for nutrients are exceptionally high to support rapid weight gain and organ development. Because this phase establishes the groundwork for future health, providing complete nutrition through breast milk or formula is essential to sustain this unparalleled rate of growth.

267. (B) a period of intense growth and hormonal changes
The transition into adolescence involves significant physiological transformations, including a major growth spurt and sexual maturation. These changes are driven by complex hormonal shifts that increase the body's requirements for energy, proteins, and specific minerals. Consequently, adolescents need enhanced nutritional support to meet the metabolic demands of their developing bodies and to ensure that bone and tissue growth occurs correctly.

268. (A) It has a significant and lasting impact on the developing fetus
Nutritional status during pregnancy is a critical determinant of fetal development and future health outcomes. A mother's diet provides the essential building blocks for the baby's organs, bones, and nervous system. Deficiencies during this period can have long-term consequences for the child, underscoring the importance of adequate maternal nutrition even from the time of conception to ensure healthy growth.

269. (C) introducing a variety of new foods
As children move from a milk-based diet in infancy toward early childhood, their nutritional requirements expand and change. Introducing a diverse range of foods is a vital strategy during this transition. This dietary diversification is necessary to provide the variety of nutrients needed for increasing energy demands and to foster healthy eating habits that will prevent nutritional deficiencies in later years.

270. (D) Adolescence
Adolescence is a life stage where iron-deficiency anemia becomes a significant nutritional concern, particularly among females. This risk is due to the rapid expansion of blood volume during growth spurts and the onset of menstruation. Public health programs targeting this issue address the unique physiological needs of teenagers, focusing on increasing iron intake to support their healthy development and overall vitality.

271. (C) Sports nutrition
Sports nutrition is a specialized field that focuses on the dietary needs of athletes to optimize their physical capabilities. Unlike general nutrition, it emphasizes the timing and composition of food intake to enhance athletic performance and speed

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up recovery after exercise. By tailoring energy and fluid intake, practitioners help athletes maintain peak health while meeting the high demands of intense training.

272. (B) community nutrition
Community nutrition involves applying nutritional principles to solve problems within a specific group of people sharing a common culture or location. Establishing a local feeding program for children is a classic example of this discipline. It requires identifying regional health issues and collaborating with local agencies to manage grassroots initiatives that improve the nutritional status of the community's most vulnerable members.

273. (D) prevent immediate mortality and morbidity from malnutrition
During times of crisis, such as natural disasters or conflicts, the immediate priority of nutritional interventions is to save lives. Nutrition in emergencies focuses on preventing death and illness caused by sudden, severe malnutrition. This objective is achieved by providing safe, nutritionally adequate food rations and therapeutic feeding programs to stabilize affected populations and protect them from life-threatening health complications.

274. (A) Sports nutrition is often highly individualized, while community nutrition is group-focused
The primary distinction between sports nutrition and community nutrition lies in their target scale and focus. Sports nutrition usually provides highly individualized strategies tailored to the specific metabolic needs of a single athlete. In contrast, community nutrition adopts a broader, group-focused approach, designing programs and interventions that address the collective health and nutritional challenges faced by people living in a shared locality.

275. (C) nutrition in emergencies and disasters
When a population is affected by a crisis like a flood, rapid nutritional assessments are essential to identify individuals at high risk. This activity is a core component of nutrition in emergencies and disasters. The goal is to quickly locate those suffering from acute malnutrition to provide life-saving therapeutic care, ensuring that limited resources are directed toward the most vulnerable survivors.

276. (A) Biochemical
Biochemical assessment involves the laboratory analysis of biological samples, such as blood or urine, to determine nutritional status. Measuring serum albumin is a common biochemical test used to evaluate the amount of protein circulating in the body. These objective laboratory results provide precise data on nutrient concentrations, helping health professionals identify deficiencies or imbalances that might not be visible externally.

277. (D) Clinical assessment
Clinical assessment is a diagnostic method where a trained professional physically examines a person for outward signs of nutritional issues. By looking for specific symptoms, such as changes in the skin, eyes, or hair, clinicians can detect advanced stages of nutrient deficiency or toxicity. This physical examination is a vital part of the comprehensive evaluation used to determine an individual's health status.

278. (B) Dietary methods
Dietary assessment methods are designed to estimate the actual food and nutrient intake of an individual. Techniques such as 24-hour recalls and food frequency questionnaires allow practitioners to collect data on eating habits over specific periods. This information is essential for identifying patterns of overconsumption or underconsumption, providing a detailed picture of the person's nutritional habits and potential risks.

279. (C) A conclusive diagnosis is best achieved by integrating multiple assessment methods
The most reliable diagnosis of nutritional status comes from a holistic approach that combines different types of data. No single parameter, such as weight or a blood test, provides a complete picture on its own. By integrating anthropometric, biochemical, clinical, and dietary findings, health professionals can cross-validate their observations, leading to a more accurate and conclusive understanding of a person's health.

280. (D) An anthropometric assessment
Anthropometric assessment focuses on the quantitative measurement of the physical

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dimensions and composition of the human body. Common indicators include height, weight, and mid-upper arm circumference. These measurements are used to monitor growth patterns in children and assess body mass in adults, providing a simple yet effective way to identify malnutrition and track physical development within a given population.

281. (A) To set the strategic direction for nutritional interventions
A national nutrition policy acts as a framework that defines a country's priorities and strategies for improving public health. It provides the overarching vision necessary to coordinate various programs and interventions effectively. By setting a clear strategic direction, the policy ensures that resources are allocated to address the most significant nutritional challenges and that all efforts are aligned with national goals.

282. (B) The Integrated Child Development Services (ICDS)
The Integrated Child Development Services (ICDS) is a major nutritional intervention program in India designed to support early childhood development. It offers a comprehensive package of services, including supplementary nutrition and health check-ups for mothers and young children. Such large-scale programs are vital for addressing malnutrition at the grassroots level and ensuring the healthy growth of the nation's future generations.

283. (B) Nutrition security includes factors like sanitation and healthcare for food utilization
Nutrition security is a more comprehensive concept than food security. While food security focuses on the availability and accessibility of food, nutrition security also considers how well the body can utilize those nutrients. This requires access to essential non-food factors, such as clean water, adequate sanitation, and quality health services, which are necessary to prevent diseases that interfere with nutrient absorption.

284. (A) encouraging school enrollment and attendance
The Mid-Day Meal Scheme is designed with two complementary goals in mind. First, it aims to improve the nutritional status of school-aged children by providing a healthy meal. Second, it serves as an incentive for families to send their children to school, thereby increasing enrollment and attendance. This dual approach addresses both immediate physical health and long-term educational outcomes for children.

285. (C) nutrition security
Even when a community has enough food, individuals may still suffer from malnutrition if environmental conditions are poor. Nutrition security requires that nutrients be effectively used by the body, which is impossible if frequent infections occur due to a lack of sanitation. Therefore, a situation where food is available but health is compromised by poor hygiene represents a failure in nutrition security.

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286. (D) Modifying a normal diet to meet specific needs related to a disease
Therapeutic nutrition is based on the concept of adapting standard dietary patterns to address the physiological changes caused by illness. Instead of a one-size-fits-all approach, a normal, healthy diet is modified to meet the specific metabolic demands of a patient's condition. This process ensures that the nutrients provided support medical treatment and help manage symptoms or the progression of the disease.

287. (C) an evidence-based approach to nutritional management of disease
Medical Nutrition Therapy (MNT) is a systematic, evidence-based method used by health professionals to treat and manage diseases through diet. It involves a detailed assessment of a patient's nutritional needs followed by the creation of a personalized plan. MNT is an essential component of healthcare that uses nutritional science to improve clinical outcomes and help patients recover from or manage chronic health conditions.

288. (B) protein, certain minerals, and fluid
Managing renal failure requires precise dietary modifications to prevent the buildup of waste products in the blood. Patients must often restrict their intake of proteins, as well as minerals like sodium and potassium, to reduce the workload on the kidneys. Additionally, fluid intake is carefully monitored to prevent fluid overload, demonstrating how therapeutic diets are tailored to specific organ dysfunctions and needs.

CHAPTER 03
Textiles

1. In textile terminology, what is the basic unit, either natural or manufactured, which is twisted with other similar units to form a yarn?
(A) Fabric
(B) Fibre
(C) Weave
(D) Finish

2. Which of the following is considered a major natural fibre of plant origin?
(A) Cotton
(B) Wool
(C) Silk
(D) Nylon

3. Identify the correct statement regarding knitted fabrics.
(A) They are created by interlacing two distinct sets of yarns at right angles.
(B) They exhibit high dimensional stability and do not stretch under tension.
(C) They are formed by interlocking loops of a single yarn or a series of yarns.
(D) They are exclusively manufactured using staple fibres in their construction.

4. The process of removing the natural colour from textiles before dyeing is a key purpose of which finishing process?
(A) Calendering
(B) Mercerization
(C) Sanforizing
(D) Bleaching

5. Which of the following is a resist dyeing technique where parts of the fabric are tied tightly to prevent dye penetration?
(A) Block printing
(B) Roller printing
(C) Tie and dye
(D) Discharge printing

6. The traditional Phulkari embroidery, characterized by vibrant floral motifs, is native to which Indian state?
(A) Gujarat
(B) Punjab
(C) West Bengal
(D) Karnataka

7. What does the term 'GSM' stand for in textile testing?
(A) Garment Strength Measurement
(B) Global Standard Material
(C) Gauge of Spun Material
(D) Grams per Square Metre

8. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Many Azo dyes have been banned in the textile industry in several countries.
Reason (R) : Some Azo dyes can break down to release carcinogenic aromatic amines.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

9. What is the primary characteristic of nano textiles?
(A) They are manufactured using exclusively natural fibres found in the environment.
(B) They are intended solely for the production of traditional and heritage garments.
(C) Their properties are manipulated at the atomic and molecular level.
(D) They are recognized for possessing an extremely heavy and high-density structure.

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the same or very similar findings when repeated under identical conditions. Ensuring reliability is crucial for the credibility of research, as it demonstrates that the observed outcomes are stable and not merely the result of random chance or error.

298. (B) Randomized controlled trial
Randomized controlled trials are considered the gold standard for establishing cause-and-effect relationships in nutrition science. By randomly assigning participants to either an intervention or a control group, researchers can minimize bias and evaluate the direct impact of a specific dietary change. This rigorous experimental design provides the most credible evidence for the efficacy of nutritional interventions and policies.

299. (B) A cross-sectional study
A cross-sectional study is a type of observational research design that analyzes data from a population at one specific point in time. This approach is useful for identifying associations between variables, such as dietary intake and health outcomes, within a large group. However, because it only provides a snapshot, it cannot determine whether one factor caused the other over a long period.

300. (A) Observational studies identify associations, while experimental studies test interventions to establish causality
Observational research identifies potential associations by monitoring subjects in their natural settings without intervention. In contrast, experimental designs like randomized controlled trials are used to establish cause-and-effect relationships. By actively testing a specific intervention against a control, researchers can determine if a dietary change directly results in a particular health outcome, providing high-quality evidence for efficacy.

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environment. Consequently, a diet deficient in these micronutrients leads to impaired metabolic regulation, as these substances are indispensable for the enzymatic processes that sustain vital life functions.

255. (C) Adding more cereals and grains to the daily diet
In the structural model of the food pyramid, the broad base represents the food groups that should constitute the largest portion of daily consumption. Typically, this category consists of cereals and grains. Therefore, a recommendation to increase intake from this level signifies incorporating more energy-providing staples into the diet to form a solid nutritional foundation for the individual.

256. (B) Carbohydrates
Metabolic fuel is essential for powering all cellular activities within the human body. Carbohydrates serve as the primary source of this energy due to their efficient conversion into glucose. While other macronutrients can provide energy, the body preferentially utilizes carbohydrates to meet its immediate caloric needs, making them central to maintaining daily energy levels and supporting vital physiological functions.

257. (D) nutrient needs are influenced by population-specific factors
Nutritional requirements are not uniform across the globe because biological and environmental variables differ significantly. For the Indian population, specific guidelines are established by taking into account unique dietary patterns, genetic predispositions, and local health statistics. Tailoring these recommendations ensures that public health strategies are effective and relevant to the specific nutritional challenges and environmental conditions found in India.

258. (A) Proteins
Proteins are fundamentally known as the building blocks of the human body because they are essential for the growth and maintenance of tissues. They provide the necessary structural components for muscles and organs. When protein intake is insufficient, the body's capacity to repair cellular damage and develop new physical structures is severely compromised, directly impacting overall physical integrity and health.

259. (C) They are essential for facilitating key biochemical reactions
Vitamins are categorized as micronutrients because they are required in minute quantities, yet they perform vital regulatory functions. They frequently act as coenzymes, which are essential for facilitating complex biochemical reactions across various metabolic pathways. Without these substances, the body cannot efficiently process other nutrients or maintain the enzymatic activities necessary for survival and optimal health in individuals.

260. (A) Fats
Dietary fats play a critical role beyond providing a concentrated source of energy. They are necessary for the absorption of fat-soluble vitamins, which cannot be utilized by the body without lipids. Furthermore, fats serve as the basic precursors for the synthesis of vital hormones. Consequently, maintaining adequate fat intake is essential for proper endocrine function and nutrient utilization.

261. (D) Public health nutrition focuses on populations, while clinical nutrition focuses on individuals
Public health nutrition and clinical nutrition differ primarily in their scope of application. While clinical nutrition focuses on the diagnosis and treatment of specific health conditions in individual patients, public health nutrition adopts a broader perspective. It aims to improve health outcomes at the community or national level by addressing the nutritional determinants and problems affecting large groups of people.

262. (B) assessing the nutritional problems within a population
Developing an effective public health intervention requires a systematic approach beginning with data collection. Before implementing programs, health professionals must conduct thorough assessments to identify the prevalence of nutritional deficiencies and other health issues within a specific group. This situational analysis provides the evidence needed to design targeted strategies that address the most pressing nutritional needs of the population.

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10. Which research method involves studying a phenomenon in its historical context to understand its evolution over time?
(A) Historical research
(B) Survey research
(C) Action research
(D) Analytical research

11. Which term describes a continuous strand of textile fibres in a form suitable for knitting, weaving, or otherwise intertwining to form a textile fabric?
(A) Fibre
(B) Fabric
(C) Weft
(D) Yarn

12. The process of converting raw cotton into a clean, uniform sliver by separating, cleaning, and aligning the fibres is known as:
(A) Ginning
(B) Carding
(C) Scouring
(D) Reeling

13. Which of the following is NOT a method of fabric construction?
(A) Woven
(B) Knitted
(C) Mercerized
(D) Non-woven

14. The finishing process that involves passing fabric between heated rollers to create effects like smoothness, lustre, and moiré is called:
(A) Tentering
(B) Singeing
(C) Bleaching
(D) Calendering

15. Match the printing techniques in List I with their core principles in List II.
List I: (Technique)
P. Batik
Q. Block Printing
R. Roller Printing
S. Heat Transfer Printing
List II: (Core Principle)
1. Engraved copper cylinders
2. Carved wooden blocks
3. Use of wax as a resist
4. Sublimation of dyes from paper
Codes:
(A) P-3, Q-2, R-1, S-4
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-3, R-1, S-4

16. Which of the following statements about technical textiles is incorrect?
(A) Geotextiles used in civil engineering are a type of technical textile.
(B) They are valued for their aesthetic properties over functional performance.
(C) They include textiles for medical applications and protective clothing.
(D) Performance and function are the primary criteria for technical textiles.

17. The Kasuti embroidery, known for its intricate stitches like 'gavanti' and 'muragi', is a traditional craft of which state?
(A) Uttar Pradesh
(B) Karnataka
(C) Rajasthan
(D) Odisha

18. In textile testing, what is the primary purpose of a colour-fastness test?
(A) To assess how well the colour resists fading or running.
(B) To determine the weight of the fabric.
(C) To measure the fabric's resistance to stretching.
(D) To count the number of yarns per inch.

19. Which of the following represents an eco-friendly textile choice?
(A) Conventionally grown cotton requiring high pesticide use.
(B) Polyester made from virgin petroleum resources.
(C) Organic cotton grown without synthetic pesticides or fertilizers.
(D) Viscose rayon produced with high chemical discharge.

20. A researcher conducting a study to understand the lived experiences of weavers and documenting their stories through in-depth interviews is using which type of research?
(A) Qualitative research

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(B) Quantitative research
(C) Analytical research
(D) Experimental research

21. Consider the following statements about weaves:
1. Plain weave is the simplest and most common weave.
2. Twill weave is characterized by diagonal parallel ribs.
3. Satin weave has a high lustre due to long floats.
4. Basket weave is a variation of the plain weave.

Which of the above statement(s) is/are correct?
(A) 1 and 2 only
(B) 1, 2 and 3 only
(C) 2, 3 and 4 only
(D) 1, 2, 3 and 4

22. The identification of fibres through a burning test is based on observing all of the following EXCEPT:
(A) The smell of the smoke.
(B) The microscopic cross-section of the fibre.
(C) The nature of the flame and smoke.
(D) The characteristics of the ash or residue.

23. The manufacturing process of which man-made fibre involves the regeneration of cellulose, typically from wood pulp?
(A) Nylon
(B) Polyester
(C) Rayon
(D) Acrylic

24. What is the fundamental difference between woven and non-woven fabrics?
(A) Woven fabrics involve interlacing yarns, while non-wovens consist of bonded fibres.
(B) Woven fabrics are made from natural fibres, while non-wovens use only man-made fibres.
(C) Woven fabrics are inherently stretchable, while non-woven types are completely rigid.
(D) Woven fabrics are intended to be disposable, while non-wovens are always durable.

25. The purpose of a 'Sanforizing' finish is to:
(A) Make the fabric flame retardant.
(B) Increase the lustre of the fabric.
(C) Control shrinkage in the fabric.
(D) Make the fabric water repellent.

26. The printing method that uses a stencil on a porous screen to transfer ink onto a substrate is called:
(A) Block printing
(B) Screen printing
(C) Roller printing
(D) Digital printing

27. Arrange the following steps of the Viscose Rayon manufacturing process in the correct chronological order:
1. Formation of Cellulose Xanthate (aging)
2. Soaking of wood pulp in caustic soda (steeping)
3. Extrusion through a spinneret into an acid bath (spinning)
4. Shredding the alkali cellulose into crumbs

(A) 1, 2, 3, 4
(B) 2, 4, 1, 3
(C) 4, 2, 1, 3
(D) 2, 1, 4, 3

28. The Kalamkari tradition, which involves drawing with a pen and using vegetable dyes, is primarily associated with which region of India?
(A) Andhra Pradesh and Telangana
(B) Gujarat
(C) Punjab
(D) West Bengal

29. A textile company wants to ensure that a batch of fabric meets the specified strength requirements before shipping. This scenario highlights the need for:
(A) Textile designing
(B) Textile marketing
(C) Textile testing and quality control
(D) Textile recycling

30. The 'Eco-Mark' in India is a certification mark issued for products that are:
(A) Grams per Square Metre
(B) Produced for export only.
(C) Conforming to a set of standards aimed at the least impact on the ecosystem.
(D) Made using 100% man-made fibres.

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31. The practice of redesigning discarded garments into new, often higher-value, apparel without breaking them down into fibres is called:
(A) Recycling
(B) Downcycling
(C) Composting
(D) Upcycling

32. A study that measures the effect of a new flame-retardant finish on the tensile strength of cotton fabric would be classified as what type of research?
(A) Historical research
(B) Quantitative research
(C) Survey research
(D) Qualitative research

33. Which of the following is an example of an incorrect pair of textile terminology?
(A) Fibre - Smallest visible unit of a textile
(B) Weave - Method of interloping yarns
(C) Yarn - A continuous strand of fibres
(D) Fabric - A planar structure made of yarns or fibres

34. Silk is a natural protein fibre obtained from the cocoon of the silkworm. What is the protein it is primarily composed of?
(A) Fibroin
(B) Keratin
(C) Cellulose
(D) Collagen

35. Consider the following statements and select the correct option.
Statement I : Woven fabrics generally have less stretch in the warp and weft directions compared to knitted fabrics.
Statement II : The interlacing structure of woven fabrics provides more dimensional stability than the interlooped structure of knits.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

36. Which of the following is a functional finish applied to textiles?
(A) Calendering for lustre
(B) Embossing for a raised pattern
(C) Moiré finish for a wood-grain effect
(D) Water-repellent finish

37. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Batik is a form of resist printing.
Reason (R) : In Batik, wax is applied to the fabric to prevent dye from penetrating certain areas, thereby creating a pattern.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

38. The Jamdani weaving technique, a discontinuous weft method creating intricate patterns, is a "Woven air" textile traditionally from:
(A) Dhaka, Bengal region
(B) Varanasi, Uttar Pradesh
(C) Kanchipuram, Tamil Nadu
(D) Paithan, Maharashtra

39. The test used to assess a fabric's resistance to the formation of small balls of entangled fibres on its surface is called:
(A) Shrinkage test
(B) GSM test
(C) Pilling test
(D) Colour-fastness test

40. Consider the following statements about textiles and the environment:
1. Effluent Treatment Plants (ETPs) are crucial for treating wastewater from dyeing units.
2. Banned azo dyes are harmful because they are not colourfast.
3. Eco-labels help consumers identify environmentally preferable products.
4. Contamination in the textile industry is limited to water pollution only.
5. Organic cotton is an example of an eco-friendly textile.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 1, 3 and 5
(C) 2, 4 and 5
(D) 1, 3, 4 and 5

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(B) P-3, Q-4, R-1, S-2
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

106. Paithani sarees, characterized by their tapestry-like weaving technique and peacock motifs on the pallu, are a traditional weave from which state?
(A) Maharashtra
(B) Gujarat
(C) Tamil Nadu
(D) West Bengal

107. The 'crockmeter' is an instrument used to test which property of a fabric?
(A) Colour-fastness to rubbing
(B) Fabric thickness
(C) Pilling tendency
(D) Air permeability

108. The Oeko-Tex Standard 100 is an example of an:
(A) Eco-label for textiles
(B) Indian traditional textile mark
(C) A brand of synthetic fibre
(D) A type of weaving loom

109. Which of the following best describes 'upcycling' in textiles?
(A) Breaking down a polyester bottle to make fibre for a fleece jacket.
(B) Using old t-shirts as cleaning rags.
(C) Patching a pair of jeans with decorative embroidery to increase its value.
(D) Composting a cotton fabric at the end of its life.

110. A descriptive research study in textiles aims to:
(A) Solving an immediate problem in a factory setting.
(B) Accurately describe the characteristics of a population, situation, or phenomenon.
(C) Determine a cause-and-effect relationship between variables.
(D) Trace the origin and evolution of a specific embroidery stitch.

111. The term for a fabric made directly from fibres which are bonded together by chemical, mechanical, heat or solvent treatment is:
(A) Woven fabric
(B) Knitted fabric
(C) Laminated fabric
(D) Non-woven fabric

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112. The fineness of a wool fibre is measured in microns. What property does a lower micron count indicate?
(A) A coarser and stronger fibre
(B) A finer and softer fibre
(C) A longer fibre
(D) A more absorbent fibre

113. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Satin and sateen weaves are known for their high lustre.
Reason (R) : These weaves are characterized by long floats, where a yarn passes over multiple other years, creating a smooth, light-reflective surface.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

114. The classification of textile finishes as 'aesthetic' or 'functional' is based on the:
(A) Chemical composition of the finish.
(B) Method of application.
(C) Primary purpose or benefit of the finish.
(D) Durability of the finish.

115. Leheriya, a traditional dyed textile from Rajasthan, is characterized by its:
(A) Intricate block printed motifs.
(B) Fine, wavy, diagonal striped patterns.
(C) Heavy brocade work with zari.
(D) Mirror-work embroidery.

116. In the context of textile testing, which of the following is NOT a physical property test?
(A) Tensile strength test
(B) Fibre identification using chemical solvents
(C) Abrasion resistance test
(D) Tear strength test

117. 'Geotextiles' are a category of technical textiles used in:

fabric, leaving no scraps.
(D) Only producing garments in neutral colors to reduce dye usage.

52. The term "weave" in textiles refers to the:
(A) Type of fibre used in a fabric.
(B) Pattern of interlacing warp and weft yarns.
(C) Final finishing process applied to a fabric.
(D) Density of yarns in a fabric.

53. Which of the following is a man-made regenerated fibre?
(A) Nylon
(B) Polyester
(C) Viscose Rayon
(D) Acrylic

54. The property of a fabric to allow air to pass through it is a defining characteristic of:
(A) Non-woven fabrics
(B) Leather substitutes
(C) Heavily coated fabrics
(D) Knitted fabrics

55. Consider the following statements about textile finishes:
1. Mercerization is a chemical finish applied to cotton.
2. Calendering is a mechanical finish that uses rollers.
3. Flame-retardant finishes are purely for aesthetic purposes.
4. Sanforizing is a finish used to control shrinkage.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 4
(B) 1, 2 and 3
(C) 2 and 4 only
(D) 1, 3 and 4

56. The use of carved wooden blocks to apply dye paste onto fabric is the central technique in which printing method?
(A) Screen printing
(B) Block printing
(C) Roller printing
(D) Digital printing

57. Chikankari, a delicate and intricate white-on-white embroidery, is a famed traditional craft from:
(A) Lucknow
(B) Jaipur
(C) Kolkata
(D) Mysore

58. What is the main purpose of sampling in textile testing?
(A) To select a representative portion of a lot for testing to infer the quality of the whole.
(B) To test the entire production batch to ensure 100% quality.
(C) To create a new design for the fabric.
(D) To reduce the weight of the final garment.

59. The use of textiles such as nets and fleeces to aid in crop protection and growth enhancement falls under the category of:
(A) Meditech
(B) Protech
(C) Agro-textiles
(D) Geotech

60. A research design that focuses on collecting numerical data and analyzing it using statistical methods is known as:
(A) Quantitative research
(B) Qualitative research
(C) Historical research
(D) Case study research

61. Arrange the following fibres in increasing order of their typical moisture regain (absorbency):
1. Polyester
2. Cotton
3. Wool

(A) 1, 2, 3
(B) 3, 2, 1
(C) 1, 3, 2
(D) 2, 1, 3

62. What is the fundamental difference between staple fibres and filament fibres?
(A) Staple fibres are short; filament fibres are long and continuous.
(B) Staple fibres are natural; filament fibres are man-made.
(C) Staple fibres are weak; filament fibres are strong.
(D) Staple fibres are dull; filament fibres are lustrous.

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41. A factory producing uniforms for firefighters is manufacturing what type of textile?
(A) Geotextiles
(B) Agrotextiles
(C) Sport-tech textiles
(D) Occupational clothing

42. What is the main objective of Action Research?
(A) To document historical trends and patterns.
(B) To solve a specific, practical problem within a local context.
(C) To collect opinions from a large population.
(D) To critically analyze and interpret existing literature.

43. Which of the following correctly classifies fibres based on their origin?
(A) Natural: Cotton, Rayon; Man-made: Wool, Nylon
(B) Natural: Linen, Polyester; Man-made: Silk, Spandex
(C) Natural: Silk, Wool; Man-made: Polyester, Acrylic
(D) Natural: Cotton, Nylon; Man-made: Jute, Rayon

44. The process specific to wool processing that involves washing the raw fleece to remove grease, dirt, and sweat is known as:
(A) Ginning
(B) Retting
(C) Reeling
(D) Scouring

45. Match the fabric constructions in List I with their defining characteristics in List II.
List I: (Fabric Construction)
P. Woven
Q. Knitted
R. Non-woven
S. Braided
List II: (Defining Characteristic)
1. Interlocking loops of yarn
2. Fibres bonded by heat, chemical or mechanical means
3. Interlacing of two sets of yarns at right angles
4. Diagonal interlacing of three or more yarns
Codes:
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-1, R-2, S-4
(C) P-3, Q-2, R-1, S-4
(D) P-4, Q-1, R-2, S-3

46. An aesthetic finish is applied to a fabric primarily to:
(A) Improve its functional performance, like durability.
(B) Alter its appearance or hand-feel.
(C) Make it resistant to shrinkage.
(D) Enhance its colour-fastness to washing.

47. What is the key principle of discharge printing?
(A) Applying a colored paste directly onto the fabric.
(B) Using a resist like wax before dyeing the fabric.
(C) Transferring a design from paper to fabric using heat.
(D) Removing colour from a pre-dyed fabric to create a pattern.

48. The double-ikat Patola sarees, known for their precise patterns created by tie-dyeing both warp and weft yarns before weaving, are a speciality of:
(A) Patan, Gujarat
(B) Paithan, Maharashtra
(C) Varanasi, Uttar Pradesh
(D) Kanchipuram, Tamil Nadu

49. A textile testing lab receives a fabric sample and is asked to determine its weight. Which is the most appropriate test to conduct?
(A) Pilling test
(B) Martindale abrasion test
(C) GSM test
(D) Tear strength test

50. What is a primary environmental concern associated with conventional cotton cultivation?
(A) Excessive water consumption and pesticide use.
(B) It replenishes soil nutrients naturally.
(C) It requires no chemical processing.
(D) The fibres are non-biodegradable.

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51. Zero-waste designing in the apparel industry primarily focuses on:
(A) Using only organic and natural fabrics.
(B) Recycling old garments into new fibres.
(C) Creating patterns that utilize 100% of the

(D) Historical analysis

73. The 'warp' and 'weft' are terminologies associated with which type of fabric?
(A) Knitted
(B) Woven
(C) Non-woven
(D) Felted

74. Nylon and Polyester are examples of which class of fibres?
(A) Natural protein fibres
(B) Natural cellulosic fibres
(C) Man-made synthetic fibres
(D) Man-made regenerated fibres

75. Consider the following statements and select the correct option.
Statement I : Non-woven fabrics like disposable wipes and masks are often designed for single-use applications.
Statement II : The production method of non-woven fabrics, which involves bonding fibres together, is typically faster and less expensive than weaving or knitting.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

76. The process of treating cotton fabric with a strong solution of sodium hydroxide to improve its strength, lustre, and dye affinity is called:
(A) Bleaching
(B) Mercerization
(C) Sanforizing
(D) Scouring

77. The traditional Ajrakh printing from the Kutch region of Gujarat is characterized by:
(A) The use of bright neon colours combined with various floral patterns.
(B) The application of white-on-white delicate embroidery on the fabric surface.
(C) The process of resist dyeing with wax to create distinct crackle effects.
(D) Geometric and floral patterns in shades of red and blue.

78. The test for measuring a fabric's dimensional change after washing is the:
(A) Shrinkage test
(B) GSM test
(C) Colour-fastness to washing test
(D) Pilling test

79. The term 'effluent' in the context of the textile industry refers to:
(A) The finished textile product.
(B) The raw fibre material.
(C) The waste water discharged from manufacturing processes.
(D) The eco-friendly dyes used in printing.

80. Consider the following statements about recent textile developments:
1. Nano textiles can be engineered to have properties like water repellency.
2. Technical textiles are classified based on their end-use applications (e.g., Meditech, Geotech).
3. Zero-waste designing is a pattern-making technique to minimize fabric waste.
4. Upcycling involves converting waste into new materials of lesser quality.
5. Occupational clothing is designed for fashion rather than function and safety.

Which of the above statement(s) is/are correct?
(A) 1, 4 and 5
(B) 2, 3 and 4
(C) 1, 2 and 3
(D) 1, 2, 3, 4 and 5

81. A researcher who wants to get a broad overview of the clothing preferences of college students in a city would most likely use which research method?
(A) Historical research
(B) Survey research
(C) Action research
(D) Case study

82. The ability of a fibre to return to its original length after being stretched is called:
(A) Elasticity
(B) Tenacity
(C) Absorbency
(D) Lustre

83. Which of the following is NOT a basic weave?
(A) Plain weave
(B) Twill weave

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(C) Satin weave
(D) Jacquard weave

84. The process of separating flax fibres from the woody stem to produce linen is called:
(A) Ginning
(B) Retting
(C) Scouring
(D) Carding

85. Warp knitting and weft knitting are two main categories of which fabric construction method?
(A) Weaving
(B) Knitting
(C) Non-woven manufacturing
(D) Braiding

86. Which finishing process is used to remove protruding surface fibres from a fabric to give it a clean surface?
(A) Singeing
(B) Tentering
(C) Napping
(D) Mercerization

87. Which of the following traditional Indian textiles is known for its intricate brocade weaving, often using gold and silver threads (zari)?
(A) Bandhani of Rajasthan
(B) Chikankari of Lucknow
(C) Brocades of Varanasi
(D) Kantha of Bengal

88. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : In textile quality control, sampling is done because testing every single item (100% inspection) is often impractical and too costly.
Reason (R) : A properly drawn random sample can provide a statistically reliable estimate of the quality of the entire lot.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

89. A key environmental benefit of recycling textiles is:
(A) It increases the demand for virgin raw materials.
(B) It reduces the amount of waste sent to landfills.
(C) It is an energy-free process.
(D) It generates more pollution than virgin production.

90. Research that critically evaluates and synthesizes information from existing sources to establish facts and draw new conclusions is known as:
(A) Analytical research
(B) Descriptive research
(C) Qualitative research
(D) Action research

91. Arrange the following natural fibres processing steps in a logical sequence for cotton:
1. Carding
2. Spinning
3. Ginning
4. Baling
(A) 3, 4, 1, 2
(B) 4, 3, 1, 2
(C) 1, 2, 3, 4
(D) 3, 1, 4, 2

92. Which of the following identifies a correct pair of fibre and its primary property?
(A) Cotton - High elasticity
(B) Wool - Excellent thermal insulation
(C) Polyester - High moisture absorbency
(D) Silk - Low tenacity

93. A fabric constructed with one set of yarns that run parallel to the selvedge and another set that runs perpendicular to it is a:
(A) Knitted fabric
(B) Woven fabric
(C) Non-woven fabric
(D) Braided fabric

94. What is the most appropriate purpose for applying a napping finish to a fabric?
(A) To make the fabric smooth and lustrous.
(B) To raise the surface fibres, creating a soft and fuzzy texture.
(C) To prevent the fabric from shrinking.
(D) To make the fabric water repellent.

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95. In which printing technique is a viscous paste (often of flour or clay) used as a resist, which cracks upon drying, leading to characteristic veined patterns?
(A) Tie and Dye
(B) Batik
(C) Sanganeri Print
(D) Discharge Print

96. The 'Tree of Life' motif is a characteristic design element found in which traditional Indian textile art form?
(A) Leheriya
(B) Kalamkari
(C) Phulkari
(D) Kasuti

97. What does a "random sampling" method in textile testing entail?
(A) Selecting the first few items from a production line.
(B) Selecting only the items that appear to be of good quality.
(C) Selecting items from the beginning, middle, and end of the lot.
(D) Selecting items in such a way that every item in the lot has an equal chance of being chosen.

98. Which of the following is the best example of a "Protech" (Protective Textile)?
(A) A bulletproof vest
(B) A silk evening gown
(C) A cotton t-shirt
(D) A disposable face mask

99. A researcher studying the impact of colour on consumer purchasing decisions for apparel is conducting what kind of research?
(A) Historical research
(B) Technical research
(C) Survey/Descriptive research
(D) Action research

100. The fundamental repeating unit of a woven fabric's structure is known as the:
(A) Weave repeat
(B) Yarn
(C) Selvedge
(D) Thread count

101. Consider the following statements regarding fibres:
1. All natural fibres are staple fibres.
2. Silk is a natural filament fibre.
3. Man-made fibres can be produced as both staple and filament.
4. Rayon is a synthetic fibre derived from petroleum.

Which of the above statement(s) is/are correct?
(A) 1 and 4 only
(B) 2 and 3 only
(C) 1, 2 and 3 only
(D) 2, 3 and 4 only

102. What is the primary purpose of the 'combing' process in high-quality cotton yarn manufacturing?
(A) To introduce crimp into the fibres.
(B) To remove short fibres and further align the long ones.
(C) To twist the fibres into yarn.
(D) To blend different types of fibres together.

103. Which property is a major advantage of knitted fabrics for sportswear?
(A) High dimensional stability
(B) Low permeability
(C) High stretch and recovery
(D) Tendency to wrinkle easily

104. Which of the following is NOT a chemical finish?
(A) Mercerization
(B) Flame retardancy
(C) Water repellency
(D) Sanforization

105. Match the printing methods in List I with their associated items or materials in List II.
List I: (Printing Method)
P. Rotary Screen Printing
Q. Heat Transfer Printing
R. Batik
S. Block Printing
List II: (Associated Item/Material)
1. Molten Wax
2. Wooden Block
3. Perforated Cylindrical Screens
4. Sublimation Dye Paper
Codes:
(A) P-1, Q-2, R-3, S-4

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128. Surgical gowns that are resistant to blood and fluid penetration are an example of:
(A) Agro-textiles
(B) Medical textiles (Meditech)
(C) Geotextiles
(D) Fashion textiles

129. If a research study aims to establish a cause-and-effect relationship between two variables, what is the most appropriate research type?
(A) Historical research
(B) Descriptive research
(C) Qualitative research
(D) Experimental research

130. A yarn that is composed of two or more single yarns twisted together is known as a:
(A) Ply yarn
(B) Simple yarn
(C) Staple yarn
(D) Filament yarn

131. Which of the following is NOT a property of wool?
(A) Good insulator
(B) Naturally flame resistant
(C) High moisture absorbency
(D) Strong when wet

132. The selvage of a woven fabric is the:
(A) Center portion of the fabric.
(B) Finished edge that runs parallel to the warp yarns.
(C) Cut edge of the fabric.
(D) Direction with the most stretch.

133. Consider the following statements and select the correct option.
Statement I : Mercerization is a finish applied only to polyester fabrics.
Statement II : The finish makes the fabric stronger and more lustrous.
(A) Both Statement I and Statement II are true.
(B) Statement I is false, but Statement II is true.
(C) Statement I is true but Statement II is false.
(D) Both Statement I and Statement II are false.

134. Which of the following is a key difference between dyeing and printing?
(A) Dyeing uses natural colorants, while printing uses synthetic ones.
(B) Dyeing imparts colour to the entire fabric, while printing applies colour to specific areas.
(C) Dyeing is always done on the finished garment, while printing is done on yarn.
(D) Dyeing is a mechanical process, while printing is a chemical process.

135. The identification of a traditional Indian textile based on its motif, colour, and technique is a competency that relates to:
(A) Connoisseurship and cultural knowledge
(B) Textile testing and quality control
(C) Environmental impact assessment
(D) Recent developments in nano-technology

136. The Martindale test is a standard method for assessing which two fabric properties?
(A) Shrinkage and colour-fastness
(B) Flammability and water repellency
(C) Abrasion resistance and pilling
(D) Tensile strength and tear strength

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137. Which of the following dyes are banned for use in textiles that come into contact with skin due to their potential to release carcinogenic amines?
(A) Vat dyes
(B) Reactive dyes
(C) Certain Azo dyes
(D) Natural dyes

138. The concept of "zero waste designing" is a direct response to the problem of:
(A) High water consumption in dyeing.
(B) Excessive fabric waste generated during garment production.
(C) Lack of durability in fast fashion.
(D) Banned chemicals in finishing processes.

139. A textile historian is studying the trade routes of Kanchipuram sarees in the 18th century. Which type of research is being conducted?
(A) Action research
(B) Survey research
(C) Historical research
(D) Experimental research

140. Match the fibre types in List I with their chemical classes in List II.
List I: (Fibre Type)

(A) Medical surgeries
(B) Agriculture and farming
(C) High-fashion apparel
(D) Civil engineering and construction

118. Which research type is most suitable for developing a detailed understanding of the weaving process as practiced by a single, highly-skilled artisan?
(A) A large-scale quantitative survey
(B) A qualitative case study
(C) An experimental study
(D) An analytical literature review

119. Which basic weave structure results in a fabric that is identical on both sides?
(A) Plain weave
(B) Twill weave
(C) Satin weave
(D) Sateen weave

120. Which man-made fibre is known for its excellent resiliency, wrinkle resistance, and use in products like PET bottles?
(A) Rayon
(B) Nylon
(C) Polyester
(D) Acrylic

121. Consider the following statements about fabric construction:
1. Weaving involves interlacing two sets of yarns: warp and weft.
2. Knitting involves forming interlocking loops of yarn.
3. Non-wovens are made by felting or bonding fibres directly.
4. Braiding is a method of fabric construction.
5. Lamination is a primary fabric construction method like weaving.

Which of the above statement(s) is/are correct?
(A) 1, 2, 3 and 4
(B) 1, 2, and 5
(C) 2, 3, 4 and 5
(D) All are correct

122. A 'permanent' finish on a textile is one that is expected to:
(A) Last for a single wash.
(B) Be removed by dry cleaning.
(C) Last for the life of the product.
(D) Be reapplied by the consumer after each use.

123. The technique of heat transfer printing is most effective on which type of fibres?
(A) Natural cellulosic fibres like cotton
(B) Natural protein fibres like wool
(C) Synthetic fibres like polyester
(D) Regenerated cellulosic fibres like rayon

124. Ikat is a distinctive style of weaving where:
(A) Extra weft threads are used to create patterns.
(B) The warp, weft, or both are tie-dyed before weaving to create the pattern.
(C) The finished fabric is embroidered with silk threads.
(D) The fabric is woven on a pit loom with a javaquard attachment.

125. A textile technologist is evaluating a fabric for use in children's sleepwear and needs to assess its flammability. This scenario highlights the importance of:
(A) Aesthetic appeal
(B) Brand reputation
(C) Quality control and safety testing
(D) Cost-effective production

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126. What is the primary purpose of an Effluent Treatment Plant (ETP) in a textile dyeing unit?
(A) To recycle unused dyes back into the process.
(B) To soften the water used for dyeing.
(C) To treat and clean the wastewater before it is discharged into the environment.
(D) To increase the colorfastness of the dyed fabrics.

127. Arrange the following developments in textile history in chronological order:
1. Invention of Nylon, the first synthetic fibre
2. Development of nano-textiles
3. Domestication of cotton and flax
4. Invention of the power loom

(A) 3, 4, 1, 2
(B) 1, 3, 4, 2
(C) 3, 1, 4, 2
(D) 4, 3, 1, 2

63. The production of silk, which involves the cultivation of silkworms, is known as:
(A) Scouring
(B) Ginning
(C) Sericulture
(D) Retting

64. Felt is a classic example of which type of fabric construction?
(A) Woven
(B) Knitted
(C) Braided
(D) Non-woven

65. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : A water-repellent finish on a fabric does not make it completely waterproof.
Reason (R) : Water-repellent finishes coat the yarns but do not close the pores of the fabric, allowing air and water vapor to pass through, whereas waterproofing closes the pores completely.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

66. The method of printing that allows for the creation of highly detailed, complex, and photographic-quality images directly from a computer file to fabric is:
(A) Block printing
(B) Digitized printing
(C) Roller printing
(D) Screen printing

67. The Kantha embroidery, often made from old sarees and dhotis, featuring a running stitch over the entire fabric, is a folk tradition of:
(A) Gujarat
(B) Bihar
(C) West Bengal
(D) Punjab

68. The ability of a dyed textile to retain its colour when exposed to various agents like light, water, and rubbing is termed:
(A) Colour-fastness
(B) Pilling resistance
(C) Shrinkage
(D) Technical strength

69. What is the main characteristic of an eco-label on a textile product?
(A) It guarantees the lowest price for the product.
(B) It indicates that the product is handmade.
(C) It certifies that the product has met specific environmental and consumer safety standards.
(D) It is a mark of luxury and high fashion.

70. Which of the following is NOT considered a recent development in textiles?
(A) The invention of the weaving loom
(B) Nano textiles
(C) Technical textiles
(D) Upcycling of textile waste

71. Match the traditional textiles in List I with their primary techniques in List II.
List I: (Traditional Textile)
P. Brocade
Q. Bandhani
R. Chikankari
S. Kalamkari
List II: (Primary Technique)
1. Tie and Dye
2. Hand Embroidery
3. Hand Painting/Block Printing with natural dyes
4. Weaving with supplementary weft
Codes:
(A) P-4, Q-1, R-2, S-3
(B) P-1, Q-4, R-3, S-2
(C) P-4, Q-2, R-1, S-3
(D) P-3, Q-1, R-2, S-4

72. A research study that begins with a theory, develops hypotheses, and then collects data to test those hypotheses is following which approach?
(A) Deductive reasoning
(B) Inductive reasoning
(C) Action research cycle

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P. Cotton
Q. Wool
R. Silk
S. Polyester

List II: (Chemical Class)
1. Synthetic Polymer
2. Natural Protein (Fibroin)
3. Natural Cellulosic
4. Natural Protein (Keratin)

Codes:
(A) P-3, Q-4, R-2, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-2, R-4, S-1
(D) P-4, Q-3, R-1, S-2

141. The microscopic appearance of cotton fibre is best described as:
(A) A smooth, glass-like rod.
(B) A scaly, cylindrical structure.
(C) A flattened, twisted tube or ribbon.
(D) A circular shape with a central canal.

142. The process of making synthetic fibres like nylon and polyester begins with a chemical process called:
(A) Fermentation
(B) Polymerization
(C) Carbonization
(D) Scouring

143. Which of the following fabric construction methods would be most suitable for producing a disposable face mask?
(A) Hand weaving
(B) Warp knitting
(C) Non-woven (spun-bond or melt-blown)
(D) Jacquard weaving

144. Which statement about textile finishes is incorrect?
(A) Finishes can be temporary or permanent.
(B) Finishes can be classified as mechanical or chemical.
(C) Functional finishes improve the performance of a fabric.
(D) All finishes are applied to improve only the appearance of a fabric.

145. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Digital printing allows for rapid prototyping and small production runs in the textile industry.
Reason (R) : Digital printing has no setup costs associated with screens or rollers, making it economical for unique designs and small quantities.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

146. Which traditional Indian textile is NOT primarily identified by its weaving technique?
(A) Banarasi Brocade
(B) Chikankari of Lucknow
(C) Kanchipuram Silk
(D) Patola of Patan

147. A "sampling plan" in quality control specifies:
(A) The price of the sample to be tested.
(B) The design and color of the sample.
(C) The number of units to be tested and the criteria for acceptance or rejection.
(D) The marketing strategy for the product.

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148. What is the defining feature of 'technical textiles'?
(A) They are designed and engineered for a specific function, not for aesthetics.
(B) They are made from 100% natural fibres.
(C) They are exclusively used in clothing.
(D) They are always biodegradable.

149. The process of converting post-consumer textile waste back into fibres that can be spun into new yarn is known as:
(A) Upcycling
(B) Re-designing
(C) Recycling
(D) Re-finishing

150. Consider the following statements about research methods:
1. Qualitative research often uses interviews and observations.
2. Quantitative research relies on numerical

(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

239. What is a key property of knitted fabrics that makes them suitable for hosiery?
(A) They are rigid and do not stretch.
(B) They can be shaped to fit the contours of the body.
(C) They are completely waterproof.
(D) They are extremely heavy.

240. Consider the following statements about textile finishing:
1. All finishes are visible on the fabric surface.
2. A functional finish enhances a fabric's performance.
3. An aesthetic finish improves a fabric's appearance or feel.
4. Mercerization is an aesthetic and functional finish for cotton.
5. Calendering is a chemical finishing process.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 2, 3 and 4
(C) 1, 4 and 5
(D) 2, 3, 4 and 5

241. The dyeing of a garment after it has been fully constructed is known as:
(A) Fibre dyeing
(B) Yarn dyeing
(C) Piece dyeing
(D) Garment dyeing

242. To distinguish a genuine hand-woven Jamdani from a machine-made imitation, one might look for:
(A) A printed label that says "Hand-woven".
(B) Slight irregularities and the pattern being visible on the reverse, without long floats.
(C) Perfect, machine-like regularity in the motifs.
(D) A much lower price point.

243. The need for quality control in the textile industry is driven by:
(A) The desire to produce inconsistent products.
(B) The goal of using the cheapest possible raw materials.
(C) The need to meet consumer expectations and industry standards.
(D) Government regulations that require all textiles to be handmade.

244. The use of recycled polyester (rPET), made from plastic bottles, is an example of:
(A) A traditional fibre manufacturing process.
(B) A new type of nano-textile.
(C) An eco-labeling scheme.
(D) An effort to reduce plastic waste and create a more sustainable textile industry.

245. Which of the following is NOT a recent development in the apparel industry?
(A) Zero waste designing
(B) The use of the sewing machine
(C) Upcycling and recycling
(D) Development of smart textiles

246. The main objective of historical research in textiles is to:
(A) Predict future fashion trends.
(B) Understand and interpret past events related to textiles.
(C) Solve current production problems.
(D) Test the physical properties of fabrics.

247. The most basic weave where each weft yarn passes over one warp yarn and under the next is:
(A) Twill Weave
(B) Plain Weave
(C) Satin Weave
(D) Basket Weave

248. The primary raw material for the production of synthetic fibres like polyester and nylon is:
(A) Petroleum
(B) Wood pulp
(C) Cotton linters
(D) Animal protein

249. Which statement incorrectly describes a property of non-woven fabrics?
(A) They are often used for disposable products.
(B) Their production is generally fast and cost-effective.
(C) They are constructed by interlacing yarns on a loom.
(D) They can be engineered for specific properties like absorbency or liquid

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(D) P-2, Q-1, R-4, S-3

161. The process of unwinding the continuous filament of silk from a cocoon is called:
(A) Scouring
(B) Reeling
(C) Throwing
(D) Degumming

162. Consider the following statements and select the correct option.
Statement I : Woven fabrics have warp and weft yarns.
Statement II : Knitted fabrics have courses and wales.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

163. The primary classification of dyes as 'natural' or 'synthetic' is based on their:
(A) Colour
(B) Source or origin
(C) Method of application
(D) Cost

164. In the identification of traditional Indian textiles, what is a 'motif'?
(A) A recurring, decorative design or figure.
(B) The type of fibre used in the fabric.
(C) The specific colours used in the design.
(D) The region where the textile was produced.

165. The measurement of fabric weight in GSM is important for determining all of the following EXCEPT:
(A) The fabric's end use suitability.
(B) The cost of the fabric.
(C) The fabric's colour-fastness.
(D) The fabric's sheerness or opacity.

166. An "eco-friendly textile" is best defined as a textile that is:
(A) Produced, used, and disposed of in a way that minimizes environmental impact.
(B) Made from any natural fibre, regardless of the production process.
(C) Only available in shades of green and brown.
(D) Extremely cheap and disposable.

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167. Textiles that are engineered with coatings or layers to provide enhanced UV protection are an example of:
(A) Traditional weaving techniques
(B) Zero waste designing
(C) Upcycling of old garments
(D) Nano textiles or advanced finishes

168. Which of the following questions would be best answered using qualitative research methods?
(A) How do artisans perceive the impact of modernization on their traditional craft?
(B) What is the average tensile strength of this batch of fabric?
(C) What percentage of consumers prefer cotton over polyester?
(D) What is the shrinkage percentage of a fabric after five washes?

169. Which of the following is a twill weave fabric, recognizable by its diagonal lines?
(A) Muslin
(B) Chiffon
(C) Denim
(D) Organza

170. Consider the following statements about fibre properties:
1. Tenacity is a measure of a fibre's strength.
2. Absorbency relates to a fibre's ability to take up moisture.
3. Resiliency is the ability of a fibre to spring back after being crushed.
4. Lustre refers to the shine or gloss of a fibre.
Which of the above statement(s) is/are correct?
(A) 1 and 2 only
(B) 1, 2 and 3 only
(C) 2, 3 and 4 only
(D) 1, 2, 3 and 4

171. The 'wales' and 'courses' are terms associated with the structure of:
(A) Woven fabrics
(B) Knitted fabrics
(C) Non-woven fabrics
(D) Braided fabrics

172. A 'greige' fabric is one that:
(A) Is finished and ready for sale.
(B) Is in its raw, unfinished state after construction.

data and statistics.
3. Historical research examines past events.
4. Action research aims to solve a practical problem.
5. Survey research is unsuitable for gathering opinions.

Which of the above statement(s) is/are correct?
(A) 1, 2, 3 and 4
(B) 1, 3, and 5
(C) 2, 4 and 5
(D) All are correct

151. Which fibre identification method provides the most definitive and scientific confirmation of a fibre's identity?
(A) Burning test
(B) Microscopic examination
(C) Chemical solubility test
(D) Feeling the fabric by hand

152. Which property of silk gives it its characteristic soft lustre?
(A) The triangular cross-section of the fibre, which reflects light.
(B) The scaly surface of the fibre.
(C) The high amount of sericin gum on the surface.
(D) The natural crimp of the fibre.

153. What is a primary disadvantage of non-woven fabrics compared to woven or knitted fabrics?
(A) They are much more expensive to produce.
(B) They generally have lower durability and strength.
(C) They cannot be made from synthetic fibres.
(D) They have very high stretch and elasticity.

154. 'Tentering' is a finishing process primarily used for:
(A) Applying a water-repellent coating.
(B) Drying fabric to a specified width under tension and straightening the grain.
(C) Creating a soft, fuzzy surface on the fabric.
(D) Increasing the lustre of cotton.

155. Which of the following is a dyed textile, identified by the technique rather than weaving or printing?
(A) Jamdani
(B) Kalamkari
(C) Bandhani
(D) Brocade

156. The need for textile testing arises from the desire to do all of the following EXCEPT:
(A) Ensure the product meets performance specifications.
(B) Control the quality of raw materials and finished goods.
(C) Settle disputes between buyers and sellers.
(D) Create the initial design concept for a garment collection.

157. Bamboo fabric, often marketed as an eco-friendly textile, is typically a form of:
(A) Viscose rayon produced from bamboo pulp.
(B) A natural bast fibre directly from the bamboo stalk.
(C) A type of synthetic polyester.
(D) A blend of cotton and wool.

158. Clothing designed to protect workers from hazards such as heat, chemicals, or mechanical dangers is classified as:
(A) Occupational clothing
(B) Casual wear
(C) Formal wear
(D) Sportswear

159. A research study that describes 'what is' regarding a current situation is known as:
(A) Historical research
(B) Experimental research
(C) Descriptive research
(D) Prognostic research

160. Match the testing instruments in List I with their purposes in List II.
List I: (Testing Instrument)
P. Spectrophotometer
Q. Tensile Tester
R. Crockmeter
S. Microscope
List II: (Purpose)
1. To measure fabric strength
2. To examine fibre cross-section
3. To assess colour-fastness to rubbing
4. To measure colour and match shades
Codes:
(A) P-1, Q-2, R-3, S-4
(B) P-4, Q-1, R-3, S-2
(C) P-4, Q-3, R-1, S-2

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(D) Elmendorf tear test

185. Arrange the typical stages of a conventional 'wet processing' sequence for cotton fabric in correct order:
1. Dyeing/Printing
2. Scouring & Bleaching
3. Finishing
4. Singeing & Desizing

(A) 1, 2, 3, 4
(B) 4, 2, 1, 3
(C) 2, 4, 1, 3
(D) 4, 1, 2, 3

186. The concept of "Eco-label" is important for consumers because it:
(A) Guarantees the product is the cheapest available.
(B) Provides a credible, third-party verification of a product's environmental claims.
(C) Is a mandatory legal requirement for all textile products.
(D) Indicates the country of origin.

187. What does 'analytical research' primarily involve?
(A) Conducting new experiments in a laboratory.
(B) Using existing information and facts to make a critical evaluation.
(C) Interviewing a large number of people.
(D) Solving a problem in a specific organization.

188. A fabric with a weave that shows a diagonal rib is a:
(A) Plain weave
(B) Satin weave
(C) Twill weave
(D) Basket weave

189. Which of the following is a man-made fibre known for its wool-like properties and is often used as a wool substitute?
(A) Rayon
(B) Nylon
(C) Polyester
(D) Acrylic

190. What is a key characteristic of non-woven fabric production?
(A) It is a slow, labour-intensive process.
(B) It bypasses the need for spinning fibres into yarn.
(C) It can only be done with natural fibres.
(D) It always results in a highly durable, long-lasting fabric.

191. Consider the following statements about dyeing and printing:
1. Dyeing is the process of colouring the entire textile material uniformly.
2. Printing is the localized application of colour to create a pattern.
3. Block printing uses carved blocks to apply colour.
4. Discharge printing adds colour to a bleached fabric.
5. Batik is a form of resist printing using wax.

Which of the above statement(s) is/are correct?
(A) 1, 2, 3 and 4
(B) 1, 2, 3 and 5
(C) 2, 3, 4 and 5
(D) All are correct

192. A special finish is applied to a cotton shirt to make it shed wrinkles and require little or no ironing. This is best described as a:
(A) Soil release finish
(B) Durable press finish
(C) Water repellent finish
(D) Flame retardant finish

193. Match the traditional crafts in List I with their states of origin in List II.
List I: (Traditional Craft)
P. Phulkari
Q. Paithani
R. Ajrakh
S. Kasuti
List II: (State of Origin)
1. Maharashtra
2. Karnataka
3. Punjab
4. Gujarat

Codes:
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-2, R-1, S-4
(D) P-4, Q-1, R-3, S-2

194. If a fabric sample shrinks from 100cm to 97cm in length after washing, what is its percentage shrinkage?

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1. Cotton
2. Rayon
3. Wool

(A) 1, 3, 2
(B) 2, 3, 1
(C) 3, 1, 2
(D) 1, 2, 3

218. The number of warp and weft yarns per square inch of a woven fabric is known as:
(A) Fabric density or thread count
(B) Yarn count
(C) GSM
(D) Weave repeat

219. Consider the following statements and select the correct option.
Statement I : Non-woven fabrics are suitable for durable, long-lasting applications like tailored suits.
Statement II : Non-woven fabrics are typically less durable and have poor drape compared to woven fabrics.
(A) Both Statement I and Statement II are true.
(B) Statement I is false, but Statement II is true.
(C) Statement I is true but Statement II is false.
(D) Both Statement I and Statement II are false.

220. The primary purpose of dyeing textiles at the 'fibre stage' (stock dyeing) is to:
(A) Achieve a very uniform and deep colour penetration.
(B) Produce fabrics with heathered or mottled colour effects.
(C) Reduce the cost of dyeing.
(D) Allow for quick response to fashion colour trends.

221. The identification of a textile as 'Ikat from Odisha' versus 'Patola from Gujarat' would require knowledge of:
(A) Only the fibre content.
(B) Specific regional variations in motif, colour palette, and weaving complexity.
(C) Only the price of the fabric.
(D) Only the end-use of the textile.

222. What does 'pilling' on a fabric surface indicate?
(A) High quality and durability.
(B) Good colour-fastness.
(C) That loose fibres have migrated to the surface and formed small balls.
(D) That the fabric has shrunk excessively.

223. What is a significant advantage of using nano-finishes on textiles?
(A) They drastically increase the weight of the fabric.
(B) They can impart functional properties without changing the fabric's hand or breathability.
(C) They are always derived from natural and organic sources.
(D) They make the fabric much cheaper to produce.

224. Which of the following is the best example of 'upcycling'?
(A) Turning a plastic bottle into polyester fibre.
(B) Using an old sari to create a new designer cushion cover.
(C) Shredding cotton t-shirts to make industrial cleaning rags.
(D) Composting a linen shirt.

225. A research study that aims to find a practical solution to a problem of poor colour-fastness in a local dyeing unit is an example of:
(A) Historical Research
(B) Action Research
(C) Analytical Research
(D) Fundamental Research

226. Match the textile terms in List I with their descriptions in List II.
List I: (Textile Term)
P. Fibre
Q. Yarn
R. Weave
S. Fabric
List II: (Description)
1. Interlacement pattern of yarns
2. Planar textile structure
3. Smallest hair-like component
4. Continuous strand of fibres

Codes:
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-1, S-2
(C) P-3, Q-1, R-4, S-2
(D) P-4, Q-3, R-2, S-1

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205. Smart textiles that can change colour in response to temperature are an example of:
(A) Recent developments in textiles
(B) A traditional dyeing technique
(C) An eco-friendly finish
(D) A type of non-woven fabric

206. A study examining the relationship between the type of weave and the fabric's tear strength would be classified as:
(A) Historical research
(B) Qualitative research
(C) Quantitative research
(D) Survey research

207. Which of the following is NOT a natural fibre?
(A) Cotton
(B) Jute
(C) Wool
(D) Acrylic

208. The first commercially produced man-made fibre was:
(A) Rayon
(B) Nylon
(C) Polyester
(D) Acrylic

209. What is the most significant advantage of woven fabrics over knitted fabrics in applications like upholstery?
(A) Greater dimensional stability and durability
(B) Higher stretchability
(C) Better insulation properties
(D) Softer hand-feel

210. Consider the following statements about traditional Indian textiles:
1. Phulkari is an embroidery from Punjab.
2. Patola is a double-ikat woven textile from Gujarat.
3. Chikankari is a type of printing from Lucknow.
4. Kalamkari is a painted/printed textile from Andhra Pradesh.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 1, 2 and 4
(C) 1, 3 and 4
(D) 2, 3 and 4

211. Which finishing process is specifically designed to control the relaxation shrinkage of wool fabrics?
(A) Sanforization
(B) Mercerization
(C) London Shrunk process
(D) Calendering

212. The key difference between flat-bed screen printing and rotary screen printing is:
(A) The type of dye used.
(B) The speed of production and the shape of the screen.
(C) Flat-bed is for synthetics, while rotary is for natural fibres.
(D) Flat-bed is a resist method, while rotary is a direct method.

213. To objectively assess whether a fabric's color has faded after a wash test, a quality controller would use a:
(A) Ruler
(B) Weighing scale
(C) Gray scale for color change
(D) Crockmeter

214. Which of the following is a direct environmental consequence of improper disposal of textile dyeing effluent?
(A) Increased air quality
(B) Soil enrichment
(C) Water pollution and harm to aquatic life
(D) Reduction in landfill waste

215. A bullet-proof jacket is made using high-performance fibres like Kevlar. This jacket is a prime example of:
(A) Occupational clothing / Protective textiles
(B) Nano textiles
(C) Upcycled fashion
(D) Zero-waste design

216. Which of the following is an example of a simple yarn?
(A) A slub yarn
(B) A single spun cotton yarn
(C) A boucle yarn
(D) A chenille yarn

217. Arrange the following fibres from strongest to weakest when wet:

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(A) 97%
(B) 103%
(C) 3%
(D) 7%

195. Textiles embedded with sensors to monitor body functions like heart rate and temperature are an example of:
(A) Geotextiles
(B) Smart textiles / Technical textiles
(C) Recycled textiles
(D) Traditional textiles

196. The difference between recycling and upcycling is that:
(A) Recycling involves breaking down materials, while upcycling often refashions them.
(B) Recycling creates a lower value product, while upcycling creates a higher value product.
(C) Recycling is for natural fibres, while upcycling is for synthetics.
(D) Recycling is industrial, while upcycling is only a hobby.

197. Which of the following is the most appropriate definition of a "fabric"?
(A) A long, continuous strand of interlocked fibres.
(B) The smallest component of a textile, hair-like in nature.
(C) A planar substance constructed from fibres or yarns.
(D) The pattern formed by interlacing yarns.

198. The property of wool that allows it to be shaped with moisture and heat, for example in felting, is due to its:
(A) Surface scale structure.
(B) Smooth, cylindrical structure.
(C) High cellulose content.
(D) Resistance to moisture.

199. What does the term "end uses" refer to in the context of fibres and fabrics?
(A) The final stage of the manufacturing process.
(B) The disposal method for the textile product.
(C) The intended application or purpose of the material.
(D) The finishing processes applied to the fabric.

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200. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Knitted fabrics are generally chosen for garments like hosiery and t-shirts.
Reason (R) : The looped structure of knitted fabrics provides excellent stretch and comfort, which is desirable for form-fitting and active garments.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

201. Which classification of finishes is based on how long the finish is expected to last on the fabric?
(A) Mechanical vs. Chemical
(B) Aesthetic vs. Functional
(C) Temporary, Durable, Permanent
(D) Wet vs. Dry

202. Which traditional Indian textile involves a unique weaving process using discontinuous supplementary weft, resulting in motifs that appear inlaid into the fabric?
(A) Jamdani
(B) Ikat
(C) Bandhani
(D) Kalamkari

203. A garment's seam strength is being tested to ensure it doesn't break under stress. This falls under the category of:
(A) Fibre testing
(B) Yarn testing
(C) Fabric testing
(D) Garment testing

204. The term 'banned dyes' in the textile industry most commonly refers to:
(A) All synthetic dyes.
(B) Dyes that are not colourfast to light.
(C) Specific dyes (like certain azo dyes) that are proven to be harmful to human health or the environment.
(D) Dyes that are very expensive to produce.

227. The process of ginning is associated with which fibre?
(A) Wool
(B) Silk
(C) Cotton
(D) Flax

228. Which fabric construction method is based on creating a fabric from a web of fibres held together by interlocking, bonding, or felting?
(A) Woven
(B) Knitted
(C) Non-woven
(D) Braided

229. A 'biopolishing' finish uses enzymes to:
(A) Make the fabric waterproof.
(B) Increase the fabric's stiffness.
(C) Remove surface fuzz and reduce pilling on cellulosic fabrics.
(D) Add a layer of plastic coating to the fabric.

230. A textile company needs to produce 500,000 meters of a fabric with a simple, repeating two-colour pattern. Which printing method would be the most economically efficient for this large-scale production?
(A) Hand block printing
(B) Digital printing
(C) Batik
(D) Roller printing or Rotary screen printing

231. Which of the following is a characteristic feature for identifying Kasuti embroidery of Karnataka?
(A) Use of tiny mirrors (shisha).
(B) The stitches appear identical on both sides of the fabric.
(C) Use of vibrant, multi-coloured floral motifs.
(D) A raised, shadow-work effect created by stitching on the reverse side.

232. To test the colour fastness to perspiration, a fabric sample would be soaked in a solution that simulates:
(A) Sea water
(B) Rain water
(C) Human sweat
(D) Laundry detergent

233. The 'cradle-to-cradle' concept in textiles is an example of an advanced environmental approach that focuses on:
(A) Creating products that can be safely and completely recycled or composted.
(B) Using only the most expensive materials.
(C) Banning all synthetic fibres from use.
(D) Increasing the speed of fast fashion cycles.

234. The use of phase-change materials (PCMs) in textiles to help regulate body temperature is an application of:
(A) Traditional dyeing
(B) Technical textiles
(C) Historical weaving
(D) Manual embroidery

235. The primary difference between qualitative and quantitative research lies in the:
(A) Topic of the research.
(B) Type of data collected and the method of analysis.
(C) Nationality of the researcher.
(D) Final cost of the research project.

236. Which one of the following is a filament fibre in its natural form?
(A) Cotton
(B) Wool
(C) Silk
(D) Jute

237. The 'hand' of a fabric refers to its:
(A) Colour and lustre
(B) Weight per square meter
(C) Tactile qualities, such as softness, stiffness, and drape
(D) Country of origin

238. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Cotton is more comfortable to wear in hot climates than polyester.
Reason (R) : Cotton is highly absorbent and allows moisture (sweat) to evaporate from the skin, providing a cooling effect, whereas polyester is hydrophobic and feels clammy.
(A) Both A and R are true and R is the correct explanation of A.

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(C) Has been dyed a grey colour.
(D) Is made exclusively from wool.

173. Roller printing was a significant development because it:
(A) Allowed for the use of natural, eco-friendly dyes.
(B) Created a unique, handmade aesthetic.
(C) Was the first method of resist printing.
(D) Mechanized the printing process, allowing for high-speed production.

174. Which embroidery from Punjab is characterized by darning stitches on the reverse side of the cloth to create a pattern on the front?
(A) Chikankari
(B) Kantha
(C) Kasuti
(D) Phulkari

175. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Fabric shrinkage testing is an important part of quality control for apparel manufacturing.
Reason (R) : Uncontrolled shrinkage can lead to garments that do not fit correctly after the first wash, resulting in consumer dissatisfaction.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

176. Which of the following is an example of an inorganic technical textile?
(A) A cotton bandage
(B) A glass fibre fire blanket
(C) A polyester sailcloth
(D) A wool thermal undergarment

177. Research conducted to generate new theories or expand on existing ones, without an immediate practical application in mind, is known as:
(A) Applied research
(B) Action research
(C) Basic or fundamental research
(D) Descriptive research

178. What does "yarn count" refer to?
(A) The fineness or thickness of a yarn
(B) The number of yarns in a fabric
(C) The length of a single yarn
(D) The number of twists in a yarn

179. The cultivation of flax and its processing into linen fibre is an example of manufacturing which type of fibre?
(A) A natural seeds fibre
(B) A natural animal fibre
(C) A natural bast fibre
(D) A natural leaf fibre

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180. A key property of weft-knitted fabrics is that they:
(A) Are extremely stable and do not stretch.
(B) Will unravel or 'run' if a yarn is broken.
(C) Can only be produced in flat form.
(D) Are constructed from two sets of yarns.

181. What is the primary function of a 'stiffening' finish on a fabric?
(A) To make it softer
(B) To add body and firmness
(C) To make it water-repellent
(D) To make it fire-retardant

182. Which printing method would be most appropriate for creating a one-of-a-kind, artistic design on a t-shirt, using a wax-resist method?
(A) Roller printing
(B) Batik
(C) Rotary screen printing
(D) Discharge printing

183. To identify a Banarasi Saree, one should look for:
(A) Tie-dyed patterns and mirror work.
(B) Intricate, Persian-inspired motifs woven in gold or silver zari brocade.
(C) White-on-white floral embroidery.
(D) Diagonal striped patterns created by resist dyeing.

184. To determine if a fabric meets a client's specification for abrasion resistance, which test would be most suitable?
(A) AATCC Gray Scale for colour change
(B) Martindale or Wyzenbeek abrasion test
(C) Vertical flammability test

repellency.

250. Which type of printing is known for its ability to create continuous patterns without any breaks, making it suitable for all-over prints on large fabric rolls?
(A) Rotary screen printing
(B) Block printing
(C) Manual screen printing
(D) Batik

Direction : Please read the following source carefully.

The foundational hierarchy of textile materials begins with the fibre, defined as a fine, hair-like substance exhibiting a significantly high length-to-width ratio, which is a prerequisite for its processability into yarn. Fibres are systematically classified based on their origin into two primary groups: natural and man-made. Natural fibres, derived from plant sources like cotton and linen or animal sources such as wool and silk, possess inherent properties dictated by their biological origin. In contrast, man-made fibres are synthesized through chemical processes, offering tailored characteristics. These individual fibres undergo spinning, a process of twisting them together to form a continuous strand known as yarn. The yarn's structure and twist are critical determinants of the final fabric's texture and strength. The subsequent step, fabric construction, involves converting yarn into a planar structure. The primary methods of construction are weaving, knitting, and creating non-woven fabrics. A weave specifically refers to the interlacement pattern of two perpendicular sets of yarns—warp (longitudinal) and weft (transverse)—in woven fabrics. The distinct patterns of this interlacement, such as plain, twill, and satin weaves, result in fabrics with varied properties. Accurate identification of both fibres and weaves is essential for quality assessment and end-use determination.

Based on the above source, attempt the following five questions.

251. What is the most crucial prerequisite for a substance to be processed into textile yarn, as mentioned in the passage?
(A) It must be of natural origin.
(B) It must have a high length-to-width ratio.
(C) It must be synthesized through a chemical process.
(D) It must be easily dyed and finished.

252. According to the text, what is the fundamental difference between natural and man-made fibres?
(A) Their source or origin.
(B) Their ability to be spun into yarn.
(C) Their length-to-width ratio.
(D) Their method of identification.

253. The process of creating a continuous strand by twisting fibres together is identified in the passage as:
(A) Weaving
(B) Construction
(C) Spinning
(D) Interlacement

254. In the context of woven fabrics, the term 'weave' specifically refers to the:
(A) process of converting yarn into a planar structure.
(B) twisting of fibres to form a yarn.
(C) identification of fibres through microscopy.
(D) interlacement pattern of warp and weft yarns.

255. Based on the passage, what is a primary reason for performing fibre and weave identification?
(A) To determine the cost of the final textile product.
(B) To classify the fabric based on its colour and design.
(C) To assess the quality and suitability for a specific end-use.
(D) To create new patterns like plain, twill, and satin.

Direction : Please read the following source carefully.

The manufacturing processes for textile fibres are distinctly bifurcated based on their natural or man-made origin. For a major natural fibre like cotton, the process begins with harvesting, followed by ginning to separate fibres from seeds, and then baling for transport. The raw cotton is then cleaned, carded, and combed to align the fibres and remove impurities before being spun into yarn. Silk production, another key natural

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classified as carcinogenic, posing significant health risks to consumers and workers. Consequently, international regulatory bodies have implemented strict bans on these particular dyes to ensure safety.

9. (C) Their properties are manipulated at the atomic and molecular level.
Nano textiles represent an advanced frontier in materials science where fabric properties are modified using nanotechnology at dimensions between one and one hundred nanometers. This precise molecular manipulation allows for the creation of innovative features such as permanent water repellency, antimicrobial protection, and enhanced UV resistance without altering the fabric's feel. These high-performance materials offer functional benefits far beyond the capabilities of conventional textiles used.

10. (A) Historical research
Historical research focuses on the systematic collection and critical evaluation of data regarding past events to understand how specific phenomena have developed over time. By examining primary sources and historical records, researchers can trace the evolution of textile techniques, traditional crafts, or industry trends. This methodology provides valuable context for current practices and helps preserve cultural knowledge by documenting the origins and changes within a field.

11. (D) Yarn
A yarn is a continuous strand constructed from textile fibres that have been processed and twisted together to provide strength and stability. This intermediary structure serves as the essential building block for various fabric formation methods, including weaving, knitting, and braiding. The characteristics of the yarn, such as its thickness, twist level, and fibre content, directly influence the texture, appearance, and performance of the final fabric.

12. (B) Carding
Carding is a fundamental mechanical process in yarn manufacturing that involves passing raw fibres between moving surfaces covered with fine wire teeth. This action separates tangled clumps, removes remaining impurities, and aligns the fibres into a parallel arrangement. The resulting product is a thin, translucent web that is subsequently condensed into a soft, rope-like structure called a sliver, which is essential for further spinning processes.

13. (C) Mercerized
Fabric construction refers to the physical methods used to assemble fibres or yarns into a stable, planar structure, such as weaving, knitting, or non-woven techniques. In contrast, mercerization is a chemical finishing treatment applied specifically to cotton yarns or fabrics using caustic soda. This process is intended to improve lustre, increase strength, and enhance dye affinity rather than being a method used to build the fabric.

14. (D) Calendering
Calendering is a mechanical finishing process where fabric is passed through a series of heavy, often heated rollers under high pressure. This treatment flattens the yarns and smoothes the surface, resulting in increased lustre and a more compact structure. By varying the speed and surface of the rollers, manufacturers can create diverse effects such as a polished finish, embossed patterns, or the characteristic wavy moiré.

15. (A) P-3, Q-2, R-1, S-4
Textile printing involves various techniques based on distinct mechanical or chemical principles to transfer patterns onto fabric. Batik utilizes wax as a resist medium to block dye penetration. Block printing employs hand-carved wooden tools to apply pigment directly. Roller printing uses engraved metal cylinders for high-speed industrial production. Heat transfer printing relies on the sublimation process where dyes turn into gas and bond with synthetic fibres.

16. (B) They are valued for their aesthetic properties over functional performance.
Technical textiles are a specialized category of materials engineered primarily for their specific functional performance and technical properties rather than for their aesthetic or decorative appeal. These products are utilized across diverse industries, including civil engineering, medicine, and protective services, where high strength, durability, or specialized resistance is required. Consequently, the performance criteria of these

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261. Which fabric construction method is characterized by the interlacement of two sets of yarns at right angles?
(A) Knitting
(B) Non-woven bonding
(C) Felting
(D) Weaving

262. According to the passage, a key property imparted to knitted fabrics due to their interlooped structure is:
(A) high rigidity and stability.
(B) significant elasticity and flexibility.
(C) resistance to snagging.
(D) low porosity and drape.

263. Which type of fabric construction bypasses the yarn formation stage and works directly with fibres?
(A) Woven
(B) Knitted
(C) Non-woven
(D) Poplin

264. Based on the passage, one would infer that a non-woven fabric would be a suitable choice for which end use?
(A) A durable, form-fitting pair of jeans.
(B) A flexible and stretchy athletic t-shirt.
(C) A long-lasting, drapable formal dress.
(D) A single-use, absorbent medical gown.

265. What is a potential disadvantage of knitted fabrics compared to woven fabrics, as mentioned in the text?
(A) They are more susceptible to snagging and unravelling.
(B) They are less elastic and flexible.
(C) They are less porous and do not drape well.
(D) They are produced by bonding fibres chemically.

Direction : Please read the following source carefully.

Textile finishes are treatments applied to fabrics after production to modify their appearance, feel, or performance. The purposes of these finishes are manifold and can be broadly classified into aesthetic and functional categories. Aesthetic finishes, such as calendering for lustre, embossing for raised patterns, or napping for a soft, fuzzy surface, primarily aim to enhance the visual and tactile appeal of the textile. Functional finishes, conversely, are engineered to impart specific performance characteristics. Examples include flame-retardant finishes for safety, water-repellent finishes for outdoor wear, and anti-microbial finishes for hygiene. The processing of these finishes involves various mechanical or chemical methods applied at different stages of textile manufacturing. For instance, a finish can be applied to the yarn, the grey fabric (unprocessed fabric), or the finished garment. The classification of finishes can also be based on their durability, ranging from temporary finishes that are removed after one wash, to durable finishes that are expected to last the life of the garment. The selection of a specific finish and its application process is critical as it must be compatible with the fibre type and the intended end use of the fabric, ensuring the desired purpose is achieved without compromising other essential properties of the textile.

Based on the above source, attempt the following five questions.

266. According to the passage, what is the primary distinction between aesthetic and functional finishes?
(A) Aesthetic finishes are chemical, while functional finishes are mechanical.
(B) Aesthetic finishes improve appeal, while functional finishes improve performance.
(C) Aesthetic finishes are temporary, while functional finishes are durable.
(D) Aesthetic finishes are applied to yarn, while functional finishes are applied to garments.

267. Which of the following is an example of a functional finish mentioned in the text?
(A) Napping for a fuzzy surface
(B) Water-repellent treatment
(C) Calendering for lustre
(D) Embossing for raised patterns

268. The passage suggests that the durability of a textile finish refers to its ability to:
(A) withstand washing and remain effective over time.
(B) resist fire and water.
(C) enhance the visual appeal of the fabric.
(D) be applied at any stage of manufacturing.

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269. Based on the text, what is a critical consideration when selecting a textile finish?
(A) The cost of the chemical treatment exclusively.
(B) The popularity of the aesthetic effect.
(C) The compatibility with the fibre type and end use.
(D) The speed of the mechanical application process.

270. The term 'grey fabric' as used in the context of applying finishes implies:
(A) fabric that has already been dyed grey.
(B) fabric made exclusively from grey-coloured fibres.
(C) fabric that has been given a durable finish.
(D) fabric in its raw, unprocessed state.

Direction : Please read the following source carefully.

Dyeing and printing are two fundamental processes for adding colour to textiles, each with distinct methods and classifications. Dyeing involves the uniform application of colour to the entire textile material, achieving a solid shade by immersing fibre, yarn, or fabric in a dye solution. Printing, in contrast, is the localized application of colour to create a specific pattern or design on the fabric surface. A diverse array of printing methods exists, each offering unique aesthetic outcomes. Block printing is a traditional hand-technique where designs are carved into wooden blocks, inked, and stamped onto the fabric. Similarly, tie and dye and batik are resist-dyeing techniques where parts of the fabric are protected from the dye to create patterns. Roller printing mechanized the process, allowing for rapid, continuous printing with engraved cylinders. Screen printing, using a mesh screen to transfer ink onto the fabric, offers versatility for both small-scale and industrial production. More advanced methods include discharge printing, where a chemical agent is used to remove colour from a previously dyed fabric to create a design. Heat transfer printing applies pre-printed designs from paper to fabric using heat and pressure, while digitized printing allows for complex, high-resolution designs to be printed directly from a computer file onto the textile, offering unparalleled design freedom.

Based on the above source, attempt the following five questions.

271. What is the principal difference between dyeing and printing as described in the passage?
(A) Dyeing uses natural colours, while printing uses synthetic colours.
(B) Dyeing is a hand-technique, while printing is always mechanized.
(C) Dyeing colours the entire material uniformly, while printing applies colour locally.
(D) Dyeing is applied to fibres, while printing is applied only to finished fabrics.

272. Which two methods mentioned in the text are classified as resist-dyeing techniques?
(A) Roller printing and screen printing
(B) Tie and dye and batik
(C) Block printing and digitized printing
(D) Discharge printing and heat transfer printing

273. Which printing method involves removing colour from a pre-dyed fabric to form a pattern?
(A) Heat transfer printing
(B) Roller printing
(C) Block printing
(D) Discharge printing

274. Based on the description, which printing technique offers the most freedom for creating complex, high-resolution, computer-generated designs?
(A) Digitized printing
(B) Screen printing
(C) Batik
(D) Roller printing

275. The passage describes block printing as a method where designs are:
(A) transferred from paper to fabric using heat.
(B) created by removing colour with a chemical agent.
(C) applied by stamping with an inked, carved block.
(D) forced through a mesh screen to form a pattern.

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Direction : Please read the following source carefully.

The traditional textiles of India represent a rich and diverse cultural heritage, identifiable by their unique regional characteristics. These textiles can

be broadly categorized into embroidered, printed, woven, and dyed textiles, with each region developing mastery over specific techniques. Identification of these textiles requires a multi-faceted approach, analyzing fibre content, technique, motifs, colour palette, and overall design. For instance, embroidered textiles like Phulkari from Punjab are recognized by their vibrant silk thread on coarse cotton using a darning stitch, often featuring geometric motifs. Woven textiles, such as the Baluchari sarees of West Bengal, are identified by their silk fibre content and intricate narrative motifs woven into the pallu, depicting mythological scenes. Printed textiles like Kalamkari from Andhra Pradesh are distinguished by their free-hand drawing and dyeing technique on cotton fabric, using vegetable dyes to create religious and floral patterns. Similarly, dyed textiles, such as Bandhani from Gujarat and Rajasthan, are identified by the characteristic dot patterns created through a meticulous tie-and-dye technique. The motif, whether it's the paisley of a Kanchipuram saree or the animal figures in a Patola weave, combined with the specific colour combinations and the base fibre, provides a unique signature that allows for the precise identification of a traditional textile's origin and craft.

Based on the above source, attempt the following five questions.

276. According to the passage, what is the basis for categorizing India's traditional textiles?
(A) The primary technique used, such as embroidery, printing, or weaving.
(B) The region of origin only.
(C) The fibre content, whether silk or cotton.
(D) The types of motifs used in the design.

277. Phulkari from Punjab is identified as an example of which type of traditional textile?
(A) Woven textile
(B) Printed textile
(C) Dyed textile
(D) Embroidered textile

278. The passage mentions that the identification of a Baluchari saree would heavily rely on its:
(A) coarse cotton base and geometric darning stitch.
(B) silk fibre and narrative motifs woven into the pallu.
(C) tie-and-dye technique creating dot patterns.
(D) free-hand drawing with vegetable dyes.

279. Based on the text, what common element is shared by Kalamkari and Bandhani textiles?
(A) They are both examples of woven textiles from the same region.
(B) They both primarily use a tie-and-dye technique.
(C) They are both identified as examples of dyed or printed crafts.
(D) They both feature intricate narrative motifs from mythology.

280. The most accurate way to identify a traditional Indian textile is by:
(A) analyzing the fibre content alone.
(B) examining the motifs and colours exclusively.
(C) focusing solely on the weaving or printing technique used.
(D) considering a combination of factors including technique, fibre, motif, and colour.

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Direction : Please read the following source carefully.

Textile testing and quality control are indispensable components of the textile industry, ensuring that materials meet specified standards from raw material to finished product. The fundamental need for testing lies in verifying quality, predicting performance, and ensuring regulatory compliance. The process typically begins with a proper sampling method, which must be representative of the entire batch or lot to yield meaningful results. Once a sample is obtained, various techniques are employed to test fibres, yarns, fabrics, and garments. Fibre testing may involve assessing length, strength, and fineness. Yarn testing often focuses on twist, count (thickness), and evenness. For fabrics, a critical set of tests is performed to evaluate structural and performance properties. These include determining colour-fastness, which is a fabric's ability to retain its dye when exposed to washing, light, or rubbing. Shrinkage tests measure the dimensional stability of the fabric after laundering. Pilling, the formation of small, entangled fibre balls on the surface, is assessed to

295. Based on the passage, an example of occupational clothing would be a:
(A) fashionable t-shirt with a stain-resistant finish.
(B) party dress made from upcycled materials.
(C) fire-resistant suit for a firefighter.
(D) designer garment with zero-waste patterns.

Direction : Please read the following source carefully.

Research in the field of textiles, as in any academic discipline, employs a variety of methods to explore questions and solve problems. The choice of research type depends on the objective of the study. Descriptive research is fundamental, aiming to accurately describe the characteristics of a population or phenomenon, such as documenting the properties of a newly developed fibre. A survey, a common tool within descriptive research, gathers data from a sample of a population to infer its attitudes or practices, like a survey on consumer preferences for eco-friendly apparel. Historical research involves the systematic collection and evaluation of data related to past events to understand their causes, effects, and influence on present-day practices; for example, studying the evolution of a traditional weaving technique. A primary distinction is often made between qualitative and quantitative research. Quantitative research focuses on numerical data and statistical analysis to test hypotheses and identify relationships, such as measuring the effect of a new finish on fabric strength. In contrast, qualitative research deals with non-numerical data like interviews or observations to gain a deep, contextual understanding of a phenomenon, such as exploring the cultural significance of a particular textile motif. Analytical and action research represent other approaches, with the former critically evaluating existing information and the latter focusing on solving immediate, practical problems within a specific context.

Based on the above source, attempt the following five questions.

296. Which type of research aims to accurately describe the characteristics of a population or phenomenon?
(A) Historical research
(B) Action research
(C) Analytical research
(D) Descriptive research

297. According to the passage, what is the main focus of quantitative research?
(A) Using numerical data and statistical analysis to test hypotheses.
(B) Exploring the cultural significance of textile motifs.
(C) Systematically evaluating data related to past events.
(D) Gaining a deep, contextual understanding through observation.

298. A researcher studying the evolution of the block printing industry in India since the 18th century would be conducting which type of research?
(A) Survey research
(B) Historical research
(C) Quantitative research
(D) Action research

299. What distinguishes qualitative research from quantitative research, as explained in the text?
(A) Qualitative research uses surveys, while quantitative research uses interviews.
(B) Qualitative research deals with non-numerical data for deep understanding, while quantitative research uses numerical data.
(C) Qualitative research solves immediate problems, while quantitative research describes populations.
(D) Qualitative research is always historical, while quantitative research is always descriptive.

300. If a textile factory manager initiates a study to solve an immediate issue of high fabric defect rates on a specific production line, this would be an example of:
(A) action research.
(B) historical research.
(C) survey research.
(D) descriptive research.

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(A) To recycle and reuse water within the factory.
(B) To remove contaminants from wastewater before discharge.
(C) To recover valuable dyes from the wastewater.
(D) To increase the efficiency of the dyeing process.

289. According to the text, what is the function of an Eco-label or Eco-mark?
(A) To indicate the country of origin of a textile product.
(B) To provide washing and care instructions for the garment.
(C) To guarantee that the textile is made from 100% natural fibres.
(D) To certify that a product meets specific environmental standards.

290. The environmental concerns in the textile industry mentioned in the passage are primarily associated with which stage of production?
(A) Wet processing, such as dyeing.
(B) Fibre cultivation and harvesting.
(C) Garment stitching and assembly.
(D) Retail and marketing of the final product.

Direction : Please read the following source carefully.

Recent developments in textiles and apparel are pushing the boundaries of material science and design philosophy, focusing on functionality, sustainability, and innovation. Nano textiles represent a significant advancement, where nanoparticles are integrated into fibres or applied as coatings to create fabrics with enhanced properties like water repellency, stain resistance, and UV protection without altering the fabric's feel. Another key area is technical textiles, which are engineered for specific functional requirements rather than aesthetic appeal. This broad category includes materials for medical applications (e.g., smart bandages), automotive interiors, and protective occupational clothing designed for firefighters or chemical workers. In response to environmental concerns, the industry is embracing new design and production paradigms. Zero-waste designing is a method where pattern-making is optimized to eliminate fabric waste during the cutting process. Concurrently, upcycling and recycling are gaining prominence as sustainable practices. Recycling involves reprocessing textile waste into new fibres and fabrics, while upcycling transforms waste materials or unwanted products into new items of higher value and quality, thus extending the material's life cycle. These developments collectively signal a shift towards smarter, safer, and more sustainable textile and apparel production.

Based on the above source, attempt the following five questions.

291. What is the defining characteristic of nano textiles as described in the passage?
(A) They are made entirely from recycled materials.
(B) They are designed to eliminate all fabric waste during production.
(C) They use nanoparticles to create fabrics with enhanced properties.
(D) They are engineered exclusively for occupational clothing.

292. The primary focus of technical textiles is on:
(A) specific functional requirements.
(B) aesthetic appeal and fashion trends.
(C) low-cost and mass production.
(D) traditional and artisanal craftsmanship.

293. Which sustainable design method specifically aims to eliminate fabric waste during the pattern-cutting stage?
(A) Upcycling
(B) Recycling
(C) Nano textile coating
(D) Zero-waste designing

294. According to the passage, what is the key difference between recycling and upcycling?
(A) Recycling is for synthetic fibres, while upcycling is for natural fibres.
(B) Recycling processes waste into new fibres, while upcycling creates higher-value products from waste.
(C) Recycling eliminates waste, while upcycling only reduces it.
(D) Recycling is a chemical process, while upcycling is a mechanical one.

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fibre, involves sericulture—the cultivation of silkworms that spin cocoons of a single, continuous filament. This filament is carefully unwound in a process called reeling to produce raw silk yarn. In contrast, the manufacturing of man-made fibres, such as polyester or nylon, involves a fundamentally different chemical-based approach. The process, known as melt, wet, or dry spinning depending on the polymer, starts with synthesizing a polymer liquid. This viscous substance is then extruded through a spinneret, a device with fine holes, into a medium that causes it to solidify into continuous filaments. These filaments are subsequently drawn (stretched) to align the polymer chains, which significantly enhances their strength and other mechanical properties. The distinct properties resulting from these methods—such as cotton's absorbency or polyester's durability—dictate their suitability for specific end uses.

Based on the above source, attempt the following five questions.

256. Which sequence accurately represents the initial processing stages for cotton fibre after harvesting?
(A) Carding, Ginning, Baling
(B) Ginning, Baling, Cleaning
(C) Harvesting, Cleaning, Spinning
(D) Baling, Reeling, Combing

257. According to the passage, the process of unwinding the continuous filament from a silkworm cocoon is known as:
(A) Sericulture
(B) Ginning
(C) Drawing
(D) Reeling

258. What is the role of a spinneret in the manufacturing of man-made fibres?
(A) To extrude a polymer liquid into filaments.
(B) To align the polymer chains through stretching.
(C) To synthesize the initial polymer solution.
(D) To separate the fibres from impurities.

259. The passage suggests that the primary purpose of 'drawing' man-made filaments is to:
(A) solidify the liquid polymer into a filament.
(B) remove any remaining impurities from the polymer.
(C) enhance their strength by aligning polymer chains.
(D) create a lustrous surface on the fibre.

260. Based on the information provided, a key distinction in the manufacturing process between natural fibres like silk and man-made fibres like polyester is that:
(A) silk is a filament that is found, while polyester filaments are manufactured.
(B) only man-made fibres are formed into continuous filaments.
(C) only natural fibres require cleaning and alignment.
(D) polyester is spun from a liquid, while silk is spun from a solid.

Direction : Please read the following source carefully.

Fabric construction is the process of converting yarns or fibres into a cohesive sheet of material, with the primary methods being weaving, knitting, and the creation of non-woven fabrics. Woven fabrics are produced by the interlacement of two sets of yarns, the warp and the weft, at right angles on a loom. This structure provides stability and rigidity, making woven fabrics like denim and poplin durable and less prone to stretching. Their properties are largely determined by the weave structure and yarn density. Knitting, on the other hand, involves the interlooping of one or more yarns. This looped structure imparts significant elasticity and flexibility to the fabric, as seen in hosiery and t-shirts. Knitted fabrics are generally more porous and drape well, but they can be more susceptible to snagging and unravelling than wovens. The third major category, non-woven fabrics, bypasses the yarn stage altogether. They are created by bonding or interlocking fibres mechanically, thermally, or chemically. Examples include felt, disposable wipes, and medical textiles. Non-woven fabrics are typically cost-effective and can be engineered for specific properties like high absorbency or liquid repellency, though they often lack the drape and durability of traditional woven or knitted textiles, influencing their primary end uses.

Based on the above source, attempt the following five questions.

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ANSWERS

1. (B) Fibre
In the textile industry, a fibre represents the most fundamental unit of material used to create fabrics. These hair-like strands can be obtained from natural sources or manufactured through chemical processes. Fibres possess sufficient length, strength, and flexibility to be twisted together into continuous strands called yarns. This initial structural component dictates the basic characteristics, performance, and durability of all subsequent textile products during manufacturing.

2. (A) Cotton
Natural fibres are classified based on their biological origins, with plant-based varieties being called cellulosic fibres. Cotton is the most significant example in this category, harvested from the protective bolls of the plant. It is widely preferred for clothing due to its high breathability, softness, and excellent moisture absorption. Other common natural fibres like wool and silk come from animals, while nylon is a synthetic material.

3. (C) They are formed by interlocking loops of a single yarn or a series of yarns.
Knitted fabrics are distinguished by their unique structural formation involving the interlocking of yarn loops rather than the interlacing of multiple sets of yarns. This construction allows the material to expand and contract easily, providing superior stretch and flexibility compared to woven fabrics. These textiles are commonly produced using specialized machines or hand needles, resulting in garments that offer exceptional comfort and a snug fit for users.

4. (D) Bleaching
Bleaching is a critical chemical finishing process used to eliminate the inherent yellowish or brownish tints found in raw textile materials. By applying oxidizing or reducing agents, manufacturers achieve a clean, white surface essential for producing bright whites or ensuring consistent results during the subsequent dyeing process. This treatment enhances the visual appeal and prepares the fabric to absorb dyes uniformly, preventing interference from any natural pigments.

5. (C) Tie and dye
Tie and dye is a traditional resist technique where specific sections of a fabric are tightly bound using threads or rubber bands before immersion in a dye bath. These tightly tied areas act as a physical barrier, preventing the liquid dye from penetrating the underlying fibres. Once the bindings are removed, the untreated portions reveal unique patterns and designs, often characterized by vibrant circles, squares, or stripes.

6. (B) Punjab
Phulkari is a renowned traditional embroidery art originating from the Punjab region, specifically characterized by the use of vibrant silk threads on coarse cotton fabric. The term literally translates to flower work, and the craft is deeply rooted in the cultural heritage of rural households. Traditionally, these intricately embroidered shawls were crafted by women for domestic use and ceremonial occasions, showcasing elaborate and colorful geometric motifs.

7. (D) Grams per Square Metre
In the textile industry, GSM is a standardized unit used to measure the mass or weight of a fabric relative to its surface area. It provides a reliable indication of the thickness, density, and potential durability of the material. Higher values typically denote heavier, more substantial fabrics like denim, while lower values are associated with lightweight, sheer textiles such as chiffon, helping manufacturers categorize specific product usage.

8. (A) Both A and R are true and R is the correct explanation of A.
Azo dyes are a large class of synthetic colorants widely used due to their cost-effectiveness and vibrant results. However, certain specific azo dyes are capable of breaking down into harmful aromatic amines through chemical reduction. These released substances are

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predict the fabric's appearance after wear. Another key parameter is GSM (Grams per Square Meter), which measures the fabric's weight and provides an indication of its density and potential end-use suitability. These systematic testing procedures are crucial for maintaining consistency and quality in textile production.

Based on the above source, attempt the following five questions.

281. What is stated as the primary reason for the need for textile testing?
(A) To verify quality and predict performance.
(B) To increase the speed of production.
(C) To develop new fashion trends.
(D) To reduce the cost of raw materials.

282. The passage emphasizes that for testing results to be meaningful, the sampling method must ensure the sample is:
(A) the largest one available.
(B) representative of the entire batch.
(C) taken from a finished garment only.
(D) free from all dyes and finishes.

283. Which test is used to measure the dimensional stability of a fabric after washing?
(A) Colour-fastness test
(B) Shrinkage test
(C) Pilling test
(D) GSM test

284. The term 'pilling' in textile testing refers to the:
(A) formation of entangled fibre balls on the surface.
(B) fabric's ability to retain its colour.
(C) weight of the fabric in grams per square meter.
(D) strength and fineness of the individual fibres.

285. What does the measurement of GSM (Grams per Square Meter) primarily indicate about a fabric?
(A) Its ability to resist shrinkage.
(B) Its resistance to colour fading.
(C) Its weight and density.
(D) Its surface smoothness and texture.

Direction : Please read the following source carefully.

The intersection of textiles and the environment has become a critical area of focus, addressing the industry's ecological footprint. A significant concern revolves around the use of certain synthetic dyes, particularly azo dyes, which can release harmful aromatic amines, leading to a list of banned dyes in many countries to protect consumer health and the environment. In response, there is a growing emphasis on eco-friendly textiles, which are produced using sustainable fibres, non-toxic dyes, and resource-conserving processes. The issue of pollution is prominent in textile wet processing, which generates large volumes of effluent containing residual dyes, chemicals, and other contaminants. Effective effluent treatment is therefore essential before discharge to prevent water pollution. This involves primary, secondary, and tertiary treatment stages to remove solids, reduce biochemical oxygen demand, and eliminate toxic substances. To help consumers identify environmentally conscious products, certification systems like Eco-labels and Eco-marks have been established. These labels certify that a product has met specific environmental criteria throughout its lifecycle, from raw material extraction to production and disposal. Such initiatives aim to promote transparency and guide the industry towards more sustainable practices, mitigating its adverse environmental impact and fostering a circular economy approach.

Based on the above source, attempt the following five questions.

286. Why have certain azo dyes been banned in the textile industry?
(A) They are too expensive to produce.
(B) They are not colour-fast during washing.
(C) They cannot be applied to natural fibres.
(D) They can release harmful substances.

287. The passage defines eco-friendly textiles as those that are:
(A) made exclusively from synthetic fibres with high durability.
(B) dyed only with bright, vibrant colours for market appeal.
(C) produced using sustainable materials and non-toxic processes.
(D) certified to be the lowest price in the market.

288. What is the primary purpose of effluent treatment in the textile industry?

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textiles always take precedence over visual characteristics during the manufacturing.

17. (B) Karnataka
Kasuti is a unique and traditional form of hand embroidery originating from the state of Karnataka. It involves intricate geometric patterns created using four specific stitches: Gavanti, Murgi, Negi, and Menthi. A defining characteristic of this craft is that the embroidery is performed without using knots, often resulting in designs that look identical on both sides of the fabric, showcasing the exceptional skill of the.

18. (A) To assess how well the colour resists fading or running.
Colour-fastness testing is a vital quality control procedure used to evaluate the resistance of a textile's colour to various external influences encountered during use. These tests measure how much the dye fades or bleeds when exposed to factors such as sunlight, domestic laundering, perspiration, and friction. Ensuring high colour-fastness is essential for maintaining the visual integrity of a garment and preventing staining during.

19. (C) Organic cotton grown without synthetic pesticides or fertilizers.
Organic cotton represents a sustainable textile choice because it is cultivated using methods and materials that have a lower impact on the environment. The production process avoids the use of harmful synthetic pesticides and fertilizers, focusing instead on natural soil health and biodiversity. This approach reduces water contamination and provides a safer working environment for farmers, making it far more eco-friendly than conventional cotton.

20. (A) Qualitative research
Qualitative research is a methodology used to gain an in-depth understanding of human experiences, social processes, and cultural meanings. By employing techniques such as open-ended interviews and detailed observations, researchers can capture the rich, narrative stories and personal perspectives of individuals, such as traditional weavers. This approach prioritizes the quality and depth of information over numerical data, allowing for a comprehensive exploration of specific.

21. (D) 1, 2, 3 and 4
Woven structures are categorized into several basic types based on the interlacing pattern of warp and weft yarns. The plain weave is the most fundamental and durable form. Twill weaves are identified by their characteristic diagonal lines or ribs. Satin weaves feature long floats that produce a smooth, shiny surface. Additionally, variations like the basket weave expand on the simple plain structure by using multiple.

22. (B) The microscopic cross-section of the fibre.
A burning test is a quick, preliminary method used to identify the general chemical family of a textile fibre based on its reaction to fire. Observers monitor the fibre's behaviour near the flame, the smell of the smoke produced, and the nature of the remaining residue or ash. While highly informative, this test does not involve microscopic examination, which is a separate laboratory technique.

23. (C) Rayon
Rayon is classified as a regenerated cellulose fibre because it is manufactured by chemically processing natural cellulose, typically sourced from wood pulp or cotton linters. The raw material is dissolved into a liquid solution and then extruded through a spinneret to reform solid filaments. Although the processing is man-made, the chemical base remains a natural polymer, distinguishing it from purely synthetic fibres like polyester.

24. (A) Woven fabrics involve interlacing yarns, while non-wovens consist of bonded fibres.
The core distinction between these two fabric types lies in their fundamental construction methods. Woven fabrics are produced on a loom by interlacing two distinct sets of yarns at right angles to each other. In contrast, non-woven fabrics are created by assembling webs of individual fibres and bonding them through mechanical, chemical, or thermal processes. This eliminates the traditional steps of spinning and interlacing.

25. (C) Control shrinkage in the fabric.
Sanforizing is a mechanical finishing process applied primarily to cotton fabrics to ensure they do not shrink significantly after laundering. During this treatment, the fabric is deliberately

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In the context of the textile industry, effluent refers to the liquid waste or wastewater that is discharged from manufacturing facilities, particularly from dyeing and finishing units. This wastewater often contains various chemicals, dyes, and organic matter that must be properly treated before being released into the environment. Effective management of effluent is a major environmental concern, requiring dedicated treatment plants.

80. (C) 1, 2 and 3
Recent advancements in the textile industry include the development of nano textiles, which use nanotechnology to add functional properties like water repellency. Technical textiles have also expanded, categorized by specific applications like medicine or civil engineering. Furthermore, zero-waste design has emerged as a sustainable pattern-making strategy. In contrast, upcycling aims to increase a product's value, while occupational clothing prioritizes functional protection.

81. (B) Survey research
Survey research is a widely used descriptive methodology designed to collect information from a specific population regarding their preferences, attitudes, or behaviors. By using standardized instruments like questionnaires or structured interviews, researchers can gather data from a large group of people efficiently. This approach is ideal for obtaining a broad overview of consumer trends, such as clothing choices among college students.

82. (A) Elasticity
Elasticity is a vital physical property of a textile fibre that describes its ability to return to its original length after being stretched or deformed by an external force. This characteristic is essential for ensuring that garments maintain their shape and provide a comfortable fit during movement. Fibres with high elasticity, such as spandex, can undergo significant stretching without suffering any permanent.

83. (D) Jacquard weave
Basic weaves are the fundamental structural patterns used to create most fabrics and include the plain, twill, and satin weaves. These are characterized by simple, repeating interlacing sequences. In contrast, the Jacquard weave is a complex decorative method that uses a specialized loom attachment to control individual warp yarns. This allows for the creation of intricate, large-scale patterns that are not possible.

84. (B) Retting
Retting is a biological or chemical process used to extract bast fibres, such as linen, from the woody stems of plants like flax. During this process, moisture and bacterial action are used to break down the natural pectins and gums that bind the fibres to the stem. Once the woody part is decomposed, the long, durable fibres can be separated and cleaned.

85. (B) Knitting
Knitting is a fabric construction method based on the formation of interlocking yarn loops. It is divided into two primary categories: weft knitting and warp knitting. In weft knitting, the yarn travels horizontally across the fabric, while in warp knitting, multiple yarns run vertically. These different techniques produce textiles with varying degrees of stretch, stability, and resistance to unravelling or running.

86. (A) Singeing
Singeing is a mechanical finishing process that involves passing a yarn or fabric over an open gas flame or heated plates at high speed. The purpose is to burn off protruding surface fibres and fuzz, resulting in a smoother, cleaner surface. This treatment prevents pilling and ensures that subsequent processes like printing or dyeing achieve a sharp, uniform appearance without interference from surface.

87. (C) Brocades of Varanasi
The brocades of Varanasi, also known as Banarasi silk, are world-renowned for their luxurious quality and intricate weaving. These textiles are characterized by the use of supplementary weft threads made of gold or silver, known as zari, to create elaborate floral and Persian-inspired motifs. This traditional craft represents the pinnacle of Indian handloom weaving, producing garments often reserved for weddings and special occasions.

88. (A) Both A and R are true and R is the correct explanation of A.

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which gives the fibre its remarkable strength and characteristic lustre. During the reeling process, a secondary gummy protein called sericin, which holds the filaments together in the cocoon, is usually removed to reveal the smooth.

35. (A) Both Statement I and Statement II are true.
Woven and knitted fabrics exhibit fundamentally different physical properties due to their internal structures. Woven textiles are formed by the tight interlacing of two sets of straight yarns, which restricts movement and provides high dimensional stability and minimal stretch. In contrast, the interlooped structure of knitted fabrics allows for significant expansion and flexibility, but makes the material more prone to deformation under stress.

36. (D) Water-repellent finish
Functional finishes are chemical or mechanical treatments applied to textiles specifically to enhance their performance or add protective properties for particular end-uses. A water-repellent finish is a prime example, as it alters the fabric's surface tension to make it resist liquid penetration while remaining breathable. This differs from aesthetic finishes, which are primarily intended to modify the visual appearance or hand-feel.

37. (A) Both A and R are true and R is the correct explanation of A.
Batik is a classic example of a resist dyeing process where molten wax is applied to specific areas of a fabric to create a design. The wax acts as a physical barrier that prevents the dye from reaching the covered fibres when the fabric is immersed in a dye bath. After dyeing, the wax is removed to reveal the original colour, creating patterns.

38. (A) Dhaka, Bengal region
Jamdani is a legendary weaving tradition historically centered in the Bengal region, specifically around Dhaka. It is renowned for its extreme fineness and translucent quality, often referred to as woven air. The technique involves a discontinuous supplementary weft method where motifs are intricately hand-woven into the fabric during the weaving process. This results in delicate patterns that appear to float on the.

39. (C) Pilling test
Pilling is a common surface defect in textiles where friction causes loose fibres to migrate to the surface and entangle into small, unsightly balls. A pilling test is conducted using specialized laboratory equipment to simulate wear and evaluate the fabric's tendency to develop these pills. This information is crucial for manufacturers to predict how the garment's appearance will change during normal usage.

40. (B) 1, 3 and 5
Environmental sustainability in the textile industry involves multiple strategies to reduce pollution and resource consumption. Effluent treatment plants are essential for cleaning hazardous wastewater from dyeing processes before discharge. Eco-labels serve as vital tools for consumers to identify responsibly manufactured products. Furthermore, choosing organic cotton significantly reduces the use of toxic chemicals in agriculture, supporting a healthier ecosystem and protecting farmers.

41. (D) Occupational clothing
Occupational clothing refers to specialized garments designed specifically for use in professional environments where workers face various physical risks. For firefighters, this involves the use of high-performance technical textiles that provide essential protection against extreme heat, flames, and smoke. These materials are engineered to meet strict safety standards, prioritizing the user's survival and functional capability over aesthetic or fashion considerations.

42. (B) To solve a specific, practical problem within a local context.
Action research is a collaborative and reflective inquiry process conducted by practitioners to address and resolve immediate, real-world problems within their own professional environment. Unlike theoretical research, which seeks generalizable knowledge, action research aims for localized improvement and practical solutions. This method involves a cycle of planning, acting, observing, and reflecting to refine processes and enhance effectiveness in specific professional settings.

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43. (C) Natural: Silk, Wool; Man-made: Polyester, Acrylic
Textile fibres are broadly categorized into two main groups based on their source. Natural fibres are obtained directly from plants, animals, or minerals, with silk and wool being prominent examples derived from silkworm cocoons and sheep's fleece, respectively. Man-made fibres are manufactured through industrial chemical processes, encompassing both synthetic polymers like polyester and acrylic, and regenerated fibres from plant sources.

44. (D) Scouring
Scouring is a fundamental cleaning process in wool production where raw fleece is washed in a warm alkaline solution containing detergents. This step is necessary to remove significant amounts of natural impurities, including grease, dirt, dust, and dried sweat that accumulate on the sheep. Proper scouring ensures that the fibres are clean and ready for subsequent manufacturing steps like dyeing and spinning.

45. (B) P-3, Q-1, R-2, S-4
Different methods of fabric construction result in distinct textile structures. Woven fabrics are created by the interlacing of warp and weft yarns at right angles. Knitted fabrics consist of interlocking loops of a single or multiple yarns. Non-woven materials are formed by bonding individual fibres together using heat or chemicals. Braided structures involve the diagonal interlacing of three or more yarns together.

46. (B) Alter its appearance or hand-feel.
Aesthetic finishes are applied to fabrics primarily to enhance their visual appeal or modify their tactile characteristics. These treatments can change the fabric's lustre, texture, or drape, making it more attractive to consumers. Examples include calendering for smoothness, napping for a soft fuzzy surface, or embossing for raised patterns. While they improve the product's marketability, they do not enhance durability.

47. (D) Removing colour from a pre-dyed fabric to create a pattern.
Discharge printing is a unique textile decoration technique that begins with a fabric that has already been dyed a solid colour. A chemical paste containing a bleaching or reducing agent is applied to specific areas using a screen or roller. This agent destroys the existing dye, leaving behind a white or differently coloured pattern against the dark background, depending on the chemical used.

48. (A) Patan, Gujarat
The Patola is a highly prestigious and complex double-ikat silk saree traditionally produced in Patan, Gujarat. This technique requires exceptional precision, as both the warp and weft yarns are meticulously tie-dyed into specific patterns before they are even placed on the loom. The resulting fabric features identical designs on both sides and is celebrated for its vibrant colours and durability.

49. (C) GSM test
When a laboratory needs to determine the mass or weight of a fabric relative to its area, the GSM test is the standard procedure. The term stands for grams per square metre and involves cutting a precise sample of the fabric and weighing it on a sensitive digital balance. This measurement is fundamental for confirming that the fabric matches the required specifications for.

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50. (A) Excessive water consumption and pesticide use.
Conventional cotton cultivation is associated with significant environmental challenges, primarily due to its high reliance on chemical inputs and water resources. The intensive use of synthetic pesticides and fertilizers can lead to soil degradation and the contamination of local water supplies. Furthermore, cotton is a thirsty crop that often requires extensive irrigation, putting pressure on already scarce water resources in many regions.

51. (C) Creating patterns that utilize 100% of the fabric, leaving no scraps.
Zero-waste design is a sustainable approach to apparel manufacturing that aims to eliminate textile waste at the cutting stage. Designers utilize clever pattern-making techniques where all the pieces fit together like a puzzle on the fabric roll, ensuring that no scraps are discarded. This method significantly reduces the volume of pre-consumer waste that typically ends up in landfills during production.

52. (B) Pattern of interlacing warp and weft yarns.
In the context of textiles, the term weave specifically identifies the structural arrangement formed by the crossing of two sets of yarns on a loom. The vertical yarns are called the warp, and the horizontal yarns are the weft. By varying the sequence in which these yarns pass over and under one another, different textures and patterns, such as plain or twill.

53. (C) Viscose Rayon
Viscose rayon is a regenerated fibre made by dissolving natural cellulose from plant sources, such as wood pulp, into a viscous liquid and then reforming it into solid filaments. Unlike purely synthetic fibres like nylon or polyester, which are derived from petroleum, rayon has a natural chemical base. This unique origin provides rayon with properties similar to natural fibres, including high absorbency.

54. (D) Knitted fabrics
Air permeability is a measure of how easily air can pass through a textile material, which is closely linked to its internal structure. Knitted fabrics inherently possess high air permeability due to the presence of numerous small spaces created by their interlocking looped construction. This breathability makes them an excellent choice for activewear and undergarments, as it helps in regulating body temperature.

55. (A) 1, 2 and 4
Textile finishes are categorized by their methods and purposes. Mercerization is a chemical treatment for cotton to increase lustre and strength. Calendering is a mechanical process using high-pressure rollers to smooth the fabric. Sanforizing is a mechanical method used to stabilize fabrics against shrinkage. In contrast, flame-retardant finishes are functional treatments designed to improve safety rather than for aesthetic appeal or lustre.

56. (B) Block printing
Block printing is an ancient and traditional manual technique for decorating fabrics using hand-carved wooden blocks. Each block is dipped into a dye paste and then pressed firmly onto the fabric surface to transfer the design. This method requires great skill and precision to align the repeating patterns correctly. It is celebrated for its unique, artisanal quality and use of natural dyes.

57. (A) Lucknow
Chikankari is an exquisite and delicate form of hand embroidery that is traditionally practiced in the city of Lucknow. It is famously known for its white-on-white aesthetic, where white cotton threads are used to create intricate floral and geometric patterns on fine muslin or other light fabrics. This craft involves various complex stitches that produce a range of textures, including embossed.

58. (A) To select a representative portion of a lot for testing to infer the quality of the whole.
Sampling is a fundamental statistical practice in textile testing because it is often impractical and expensive to test every single item in a large production batch. By selecting a smaller, representative portion of the material, technicians can perform detailed tests and use the results to estimate the overall quality of the entire lot. This ensures that quality control is both efficient and.

59. (C) Agro-textiles
Agro-textiles represent a category of technical textiles specifically developed for applications in agriculture, horticulture, and forestry. These materials include nets for crop protection against birds and insects, fleeces for thermal insulation, and ground covers for weed control. By enhancing growing conditions and protecting plants from environmental stress, these textiles play a vital role in increasing crop yields and improving farm productivity.

60. (A) Quantitative research
Quantitative research is a formal, objective methodology used to quantify variables and establish relationships through the collection of numerical data. This approach relies on structured instruments, such as surveys or standardized tests, to gather information from a population. The resulting data is then analyzed using statistical tools to provide clear, measurable evidence that can often be generalized to a broader context or population.

61. (A) 1, 2, 3
Moisture regain is a measure of a fibre's ability to absorb water vapor from the air under standard

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batch has an equal probability of being selected for inspection, eliminating potential bias from the technician. This method provides the most reliable data for making decisions about the acceptance.

98. (A) A bulletproof vest
Protech, short for protective textiles, refers to high-performance materials engineered to safeguard individuals from extreme environmental hazards or life-threatening situations. A bulletproof vest is a classic example, as it utilizes advanced synthetic fibres like aramid to provide high-impact resistance and protection. Unlike casual clothing, these textiles are strictly valued for their specialized functional capabilities and ability to ensure safety in dangerous.

99. (C) Survey/Descriptive research
Descriptive research, often conducted through surveys, is a methodology used to observe and describe the behaviors or preferences of a specific group without influencing them. By gathering data on consumer purchasing decisions, researchers can identify which factors, such as colour or price, most significantly impact market trends. This approach provides a clear snapshot of current consumer attitudes, helping businesses make informed design and.

100. (A) Weave repeat
A weave repeat is the smallest unit of a woven structure that contains the complete interlacing pattern of warp and weft yarns. This sequence is repeated across the entire width and length of the fabric to create a uniform textile surface. Understanding the repeat is essential for textile designers to plan patterns and for manufacturers to set up looms correctly for consistent fabric.

101. (B) 2 and 3 only
Textile fibres are categorized by their length into staple and filament types. Most natural fibres, such as cotton and wool, are staple fibres of relatively short length. Silk is the only natural fibre found in continuous filament form. In contrast, man-made fibres are manufactured as filaments but can be cut into shorter staple lengths to blend with other fibres, providing versatility in.

102. (B) To remove short fibres and further align the long ones.
Combing is an optional but highly beneficial mechanical process in the production of high-quality cotton yarns. It follows the carding stage and uses fine combs to extract shorter fibres and any remaining small impurities from the sliver. This results in a strand composed only of long, uniform fibres, which can be spun into yarns that are exceptionally smooth, strong, and highly durable.

103. (C) High stretch and recovery
Knitted fabrics are widely used in sportswear due to their unique interlooped structure, which provides inherent stretch and excellent recovery. This flexibility allows the garment to move with the athlete's body without restriction, while the recovery property ensures that the clothing returns to its original shape. These characteristics are essential for performance and comfort during intense physical activities where freedom of movement.

104. (D) Sanforization
Textile finishes are broadly classified as chemical or mechanical based on their method of application. Chemical finishes like mercerization and water repellency involve the use of specific substances to alter the fabric's properties. In contrast, sanforization is a mechanical process that uses controlled tension and compression to stabilize fabric dimensions. This physical treatment prevents shrinkage without the need for additional chemicals during the finishing.

105. (B) P-3, Q-4, R-1, S-2
Different textile printing methods are associated with specific materials and mechanical systems. Rotary screen printing utilizes perforated metal cylinders to apply dye at high speeds. Heat transfer printing relies on specialized paper with sublimation dyes to transfer patterns. Batik is defined by the use of molten wax as a resist. Block printing is a traditional manual method using hand-carved wooden tools for patterns.

106. (A) Maharashtra
The Paithani saree is a prestigious hand-woven textile originating from the town of Paithan in Maharashtra. It is renowned for its luxurious silk fabric and the unique tapestry-like weaving

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fabric production. In contrast, innovations like nano textiles, specialized technical textiles, and the focus on upcycling are modern advancements. These recent developments utilize sophisticated technology and sustainable practices to address contemporary needs for high performance and ecological responsibility.

71. (A) P-4, Q-1, R-2, S-3
Traditional Indian textiles are identified by their unique production techniques. Brocade involves weaving complex patterns using supplementary wefts, often with zari threads. Bandhani is a classic tie-and-dye method where the fabric is knotted before dyeing. Chikankari is a renowned form of hand embroidery from Lucknow. Kalamkari represents the art of hand-painting or block-printing designs on fabric using natural vegetable dyes and materials.

72. (A) Deductive reasoning
Deductive reasoning is a top-down logical approach used in research where the process begins with a general theory or hypothesis. The researcher then designs a study to collect specific empirical data to test whether these initial assumptions are correct. This method is common in scientific investigations where the goal is to confirm or refute existing theories based on Measurable evidence.

73. (B) Woven
The terms warp and weft are fundamental to the construction of woven fabrics. Warp refers to the set of longitudinal yarns that are held under tension on a loom, while weft refers to the transverse yarns that are interlaced through the warp. This perpendicular arrangement is the defining characteristic of weaving, distinguishing it from other methods like knitting, where yarns are.

74. (C) Man-made synthetic fibres
Nylon and polyester are classified as synthetic fibres because they are manufactured entirely from chemical polymers, typically derived from petroleum-based sources. Unlike natural or regenerated fibres, these materials do not have a biological origin. They are engineered to possess specific desirable properties, such as high strength, durability, and resistance to wrinkles, making them widely used in modern apparel and industrial.

75. (A) Both Statement I and Statement II are true.
Non-woven fabrics are engineered for efficiency and specific functional needs, often making them ideal for single-use products like medical masks and hygiene wipes. The manufacturing process is significantly faster and more cost-effective than weaving or knitting because it bypasses the time-consuming steps of spinning and yarn preparation. This allows for high-volume production at a lower price point, which is beneficial.

76. (B) Mercerization
Mercerization is a significant chemical finishing process for cotton that involves treating the material with a concentrated solution of sodium hydroxide. This treatment causes the cotton fibres to swell and become more cylindrical, which permanently increases the fabric's lustre and tensile strength. Additionally, mercerized cotton has a much higher affinity for dyes, resulting in deeper and more vibrant colours compared to untreated.

77. (D) Geometric and floral patterns in shades of red and blue.
Ajrakh is a sophisticated traditional block-printing technique practiced in the Kutch region of Gujarat. It is distinguished by its intricate geometric and floral patterns, typically executed in a palette of deep red and indigo blue derived from natural dyes. The process is highly labor-intensive, involving multiple stages of resist dyeing and washing to achieve the complex, symmetrical designs that are characteristic.

78. (A) Shrinkage test
A shrinkage test is a standard quality control procedure used to measure the dimensional change in a fabric after it has been subjected to laundering. By comparing the dimensions of a sample before and after washing, technicians can determine if the material tends to contract or expand. This information is critical for garment manufacturers to ensure that finished products maintain their size.

79. (C) Order to meet consumer expectations and industry standards.

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compressed and stretched under controlled conditions to stabilize the dimensions of the constituent yarns. This process provides a guarantee that garments made from the treated material will maintain their original size and shape throughout their useful life.

26. (B) Screen printing
Screen printing is a versatile textile decoration method that uses a fine mesh or screen to support a stencil. The ink or dye paste is forced through the open areas of the stencil using a squeegee, transferring the design onto the fabric surface. This technique allows for the application of vibrant colours and can be performed manually on flat tables or industrially using rotary systems.

27. (B) 2, 4, 1, 3
The manufacture of viscose rayon follows a specific sequence beginning with steeping wood pulp in caustic soda to create alkali cellulose. This material is then shredded into crumbs to increase surface area before being aged and reacted with carbon disulphide to form cellulose xanthate. Finally, the resulting viscous solution is extruded through a spinneret into an acid bath, where the cellulose is regenerated.

28. (A) Andhra Pradesh and Telangana
Kalamkari is a renowned traditional Indian art form primarily associated with the regions of Andhra Pradesh and Telangana. The name is derived from the words for pen and craftsmanship, reflecting the technique of hand-painting intricate designs using a bamboo pen. This craft utilizes natural vegetable dyes and involves a multi-stage process of washing, mordanting, and dyeing to create detailed mythological and floral motifs.

29. (C) Textile testing and quality control
Textile testing and quality control are essential industrial practices used to verify that materials meet specific performance and safety standards before they reach the consumer. By conducting rigorous physical and chemical tests, manufacturers can confirm properties like tensile strength, colour-fastness, and dimensional stability. This ensures product reliability, minimizes waste due to defects, and protects the reputation of the brand in the marketplace.

30. (A) Grams per Square Metre
The Eco-Mark is a voluntary certification scheme introduced by the Government of India to identify products that are manufactured with minimal negative impact on the ecosystem. To receive this mark, a textile product must comply with specific environmental criteria throughout its lifecycle, including raw material extraction, production processes, and disposal. This helps consumers make informed choices and encourages the industry to adopt sustainable.

31. (D) Upcycling
Upcycling is a creative sustainable practice in the fashion industry that involves transforming discarded or old garments into new products of higher value or quality. Unlike traditional recycling, which breaks materials down into raw fibres, upcycling retains the original fabric structure while modifying its design. This process extends the lifecycle of textiles, reduces the need for virgin resources, and minimizes waste in landfills.

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32. (B) Quantitative research
Quantitative research is a systematic investigation that focuses on gathering numerical data and performing statistical analysis to identify patterns or test relationships between variables. In this specific scenario, the researcher measures the exact change in tensile strength, a numerical value, after applying a chemical finish. This objective approach allows for precise comparisons and generalized conclusions based on empirical evidence obtained from experiments.

33. (B) Weave - Method of interloping yarns
Textile terminology accurately defines the processes used in fabric creation. A weave is specifically the method of interlacing two sets of yarns, known as warp and weft, at right angles to each other. The term used for the method of interlocking or interloping yarns to form a fabric is actually knitting. Understanding these distinctions is fundamental to correctly identifying fabric structures and properties.

34. (A) Fibroin
Silk is a high-quality natural protein fibre produced by silkworms as they spin their cocoons. The primary structural component of the silk filament is a protein called fibroin,

Sampling is a critical practical approach in quality control because testing every individual product in a large shipment is prohibitively expensive and time-consuming. A scientifically selected random sample ensures that every item has an equal chance of being chosen, making the sample representative of the entire batch. Therefore, the results obtained from testing the sample can be reliably used to estimate quality.

89. (B) It reduces the amount of waste sent to landfills.
Textile recycling is a key component of sustainable fashion that focuses on diverting discarded fabrics from the waste stream. By processing old clothing and manufacturing scraps into new materials, the industry can significantly reduce the volume of textile waste that ends up in landfills. This practice also helps conserve natural resources and reduces the environmental impact associated with producing completely new fibres.

90. (A) Analytical research
Analytical research is a type of investigation where the researcher utilizes information and facts that are already available to perform a critical evaluation. Instead of just describing a phenomenon, this approach involves breaking down complex information to identify underlying causes, patterns, and relationships. It is essential for drawing new conclusions from existing data and for developing deeper theoretical understandings within a.

91. (A) 3, 4, 1, 2
The processing of cotton follows a logical sequence starting with ginning, which separates the fibres from the seeds. The cleaned fibres are then compressed into heavy units called bales for transportation. Upon reaching the mill, the cotton undergoes carding to align the fibres and remove remaining impurities. Finally, the aligned fibres are subjected to spinning, where they are twisted together to.

92. (B) Wool - Excellent thermal insulation
Each textile fibre possesses unique physical and chemical properties that determine its suitability for specific applications. Wool is highly valued for its exceptional thermal insulation, a result of its natural crimp and scaly surface which trap air. In contrast, cotton is known for its absorbency rather than elasticity, and polyester is hydrophobic, while silk is actually quite strong and possesses high.

93. (B) Woven fabric
A woven fabric is defined by its perpendicular structure, consisting of two distinct sets of yarns that are interlaced on a loom. The set of yarns that runs parallel to the fabric's finished edge, or selvedge, is the warp. The set that runs across the width of the fabric is the weft. This interlacing creates a stable, planar material with minimal stretch.

94. (B) To raise the surface fibres, creating a soft and fuzzy texture.
Napping is a mechanical finishing process where a fabric's surface is brushed with wire-covered rollers to pull up the ends of the constituent fibres. This action creates a soft, fuzzy layer known as a nap, which significantly improves the fabric's softness and warmth by trapping air. It is commonly used on materials like flannel to enhance their comfort and insulation properties.

95. (B) Batik
Batik is a renowned resist dyeing technique that uses molten wax or a specialized paste to create patterns. When the resist material dries and cools, it often develops fine cracks. During the subsequent dyeing process, the liquid dye seeps into these cracks, resulting in the characteristic veined or marbled effect that is a hallmark of authentic batik. This unique aesthetic is highly.

96. (B) Kalamkari
The Tree of Life is an iconic and symbolic motif deeply associated with the Kalamkari tradition of India. This intricate design represents growth, interconnectedness, and the cycle of life, often featuring a central tree with elaborate branches, flowers, and birds. In Kalamkari, this motif is either hand-painted or block-printed using natural dyes, showcasing the rich storytelling and artistic heritage of the.

97. (D) Selecting items in such a way that every item in the lot has an equal chance of being chosen.
Random sampling is a vital statistical method in textile quality control used to ensure that a tested sample truly represents the entire production lot. In this approach, every single unit within the

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conditions. Synthetic fibres like polyester have very low absorbency, typically around 0.4 percent. Natural cellulosic fibres like cotton have a moderate regain of about 8.5 percent. Natural protein fibres like wool exhibit the highest moisture regain, reaching up to 16 percent, making them very.

62. (A) Staple fibres are short; filament fibres are long and continuous.
The primary classification of textile fibres based on their length distinguishes between staple and filament types. Staple fibres are relatively short, measured in inches or centimeters, and include almost all natural fibres except silk. Filament fibres are extremely long, often continuous strands that can extend for hundreds of meters. While all man-made fibres begin as filaments, they can be cut into shorter lengths.

63. (C) Sericulture
Sericulture is the specialized field of agriculture that involves the commercial rearing of silkworms for the production of raw silk. This process begins with the cultivation of mulberry trees to provide food for the larvae and continues through the careful monitoring of the silkworms as they spin their protective cocoons. The cocoons are then harvested to extract the valuable continuous silk filaments.

64. (D) Non-woven
Felt is a traditional and widely recognized example of a non-woven fabric. Unlike woven or knitted textiles, felt is not constructed from yarns. Instead, it is made by matting and interlocking animal fibres, such as wool, using a combination of moisture, heat, and mechanical agitation. The unique scale structure of wool fibres allows them to entangle and bond together permanently.

65. (A) Both A and R are true and R is the correct explanation of A.
Water-repellent and waterproof finishes provide different levels of protection. Water-repellent treatments coat individual yarns with a hydrophobic substance, causing water to bead up and roll off while leaving the fabric's pores open for air and vapor circulation. Conversely, waterproofing involves applying a continuous coating or membrane that completely seals the fabric, preventing both water and air from passing through.

66. (B) Digitized printing
Digitized or digital textile printing is a modern technology that functions similarly to an office inkjet printer but on a much larger scale for fabric. It allows for the direct transfer of complex, high-resolution designs from a computer file onto the textile surface. This method eliminates the need for expensive screens or engraved rollers, making it ideal for producing highly detailed and customized designs.

67. (C) West Bengal
Kantha is a traditional and culturally significant folk embroidery originating from the regions of West Bengal and Bangladesh. It is characterized by the inventive reuse of old cotton sarees and dhotis, which are layered and stitched together using a simple running stitch. This craft often depicts scenes from daily life, folklore, and nature, serving as a sustainable and artistic way of recycling.

68. (A) Colour-fastness
Colour-fastness is a critical quality attribute of a textile that describes its ability to resist fading or bleeding when exposed to various environmental conditions and cleaning processes. It is evaluated across multiple categories, including resistance to sunlight, washing, perspiration, and dry friction. Maintaining good colour-fastness is essential for ensuring that the garment remains visually appealing and does not cause staining of other.

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69. (C) It certifies that the product has met specific environmental and consumer safety standards.
An eco-label is a standardized certification mark placed on a product to inform consumers that it has been produced following strict environmental and social criteria. These labels provide third-party verification that the textile meets standards regarding chemical use, water treatment, and worker safety. By looking for eco-labels, shoppers can identify products that have a reduced ecological footprint and are safe.

70. (A) The invention of the weaving loom
The history of textiles spans thousands of years, with the invention of the weaving loom being an ancient development that laid the foundation for

technique used for its borders and pallu. A signature feature of this saree is the use of vibrant colours and traditional motifs, particularly the peacock, which are intricately woven using gold and silk.

107. (A) Colour-fastness to rubbing
A crockmeter is a specialized laboratory instrument used to evaluate a textile's resistance to colour transfer, a property known as crocking. During the test, a standard white cloth is rubbed against the surface of the specimen under controlled pressure and speed. The amount of dye that transfers to the white cloth is then assessed to determine the fabric's colour-fastness in both dry.

108. (A) Eco-label for textiles
The Oeko-Tex Standard 100 is a globally recognized, independent certification system for textile products at all stages of manufacturing. It acts as an eco-label by testing for a wide range of harmful substances, including prohibited azo dyes, formaldehyde, and heavy metals. This certification ensures that the textile is safe for human use and meets high environmental safety standards, providing consumer.

109. (C) Patching a pair of jeans with decorative embroidery to increase its value.
Upcycling in the textile industry focuses on creatively repurposing old or discarded items into new products that possess higher aesthetic or functional value. Unlike recycling, which breaks materials down into their raw components, upcycling maintains the integrity of the original material. By adding decorative elements or modifying the design, upcycling extends the life of the product and reduces the need for new resources.

110. (B) Accurately describe the characteristics of a population, situation, or phenomenon.
Descriptive research in the field of textiles is designed to provide a systematic and accurate account of a specific situation or consumer group. This type of study focuses on identifying what is happening rather than explaining why it occurs. By collecting data through observations or surveys, researchers can document current trends, preferences, and industry practices, providing a vital foundation for further analytical.

111. (D) Non-woven fabric
Non-woven fabrics represent a unique category of textiles produced directly from a web or sheet of fibres without the need for weaving or knitting. These materials are formed by bonding individual fibres together using various methods, including heat, chemical adhesives, or mechanical interlocking. This direct production method allows for the creation of fabrics with specialized properties, often used in medical and hygiene.

112. (B) A finer and softer fibre
The fineness of wool is measured in microns, representing the actual diameter of the individual fibre. A lower micron count indicates that the fibres are much thinner, which directly translates to a softer, more luxurious feel against the skin. High-quality wool products, such as those made from Merino sheep, typically have low micron counts, making them highly desirable for premium apparel.

113. (A) Both A and R are true and R is the correct explanation of A.
Satin and sateen weaves are highly valued for their characteristic high lustre and smooth surface. This visual effect is achieved through a specific interlacing pattern where yarns float over multiple perpendicular yarns before being secured. These long, uninterrupted floats create a flat surface that reflects light more uniformly than other weaves. This makes the fabric appear exceptionally shiny and feel very smooth.

114. (C) Primary purpose or benefit of the finish.
Textile finishes are systematically categorized into two main groups based on the primary objective they are intended to achieve. Aesthetic finishes are designed to modify the visual appearance or the hand-feel of the fabric, such as increasing lustre or softness. Functional finishes are applied to enhance the performance or protective qualities of the material, like adding water repellency or flame retardancy for.

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115. (B) Fine, wavy, diagonal striped patterns.
Leheriya is a traditional and vibrant tie-dye technique originating from the state of Rajasthan. The name is derived from the word for wave, reflecting the characteristic diagonal striped patterns that resemble ripples in water.

This effect is achieved by folding and rolling the fabric in a specific manner before tying and dyeing, resulting in delicate, multi-coloured wavy designs often seen on turbans.

116. (B) Fibre identification using chemical solvents
Textile testing is divided into physical and chemical categories based on the properties being evaluated. Physical property tests measure mechanical characteristics such as tensile strength, abrasion resistance, and tear strength using physical forces. In contrast, fibre identification using chemical solvents is a chemical test that relies on the reaction of the fibre to specific reagents to determine its molecular structure and chemical family.

117. (D) Civil engineering and construction
Geotextiles are a major category of technical textiles engineered for use in civil engineering and environmental projects. These materials are utilized for soil stabilization, filtration, drainage, and erosion control in the construction of roads, embankments, and retaining walls. By providing high strength and permeability, geotextiles enhance the performance and longevity of infrastructure projects, making them essential in modern construction and.

118. (B) A qualitative case study
A qualitative case study is an ideal research methodology for gaining an in-depth and comprehensive understanding of a specific individual, group, or process. This approach allows the researcher to explore the intricate details and personal expertise of a master artisan through close observation and detailed interviews. By focusing on a single subject, the study can uncover unique insights and preserve traditional knowledge.

119. (A) Plain weave
The plain weave is the most fundamental and symmetrical of all woven structures, characterized by a simple one-over, one-under interlacing pattern. This balanced arrangement ensures that the distribution of warp and weft yarns is identical on both the front and back of the fabric. Consequently, plain weave textiles have no distinct right or wrong side, making them versatile for many.

120. (C) Polyester
Polyester is a versatile synthetic fibre known for its exceptional resiliency, which allows it to resist wrinkling and maintain its shape after repeated use. Its durability and chemical resistance also make it the ideal material for manufacturing clear, high-strength containers like PET bottles. In the textile industry, polyester is frequently blended with natural fibres to enhance their performance and reduce overall.

121. (A) 1, 2, 3 and 4
Fabric construction involves several distinct methods to transform fibres or yarns into stable planar structures. Weaving uses the interlacing of warp and weft yarns, while knitting relies on interlocking loops. Non-wovens are created by bonding or felting fibre webs directly. Braiding involves the diagonal interlacing of multiple yarns together. Lamination, however, is a secondary process used to join existing fabric layers.

122. (C) Last for the life of the product.
A permanent finish is a textile treatment that is chemically or mechanically bonded to the fabric in a way that ensures it remains effective throughout the product's useful life. Unlike temporary or durable finishes, a permanent finish is resistant to repeated laundering, dry cleaning, and normal wear. This type of treatment provides a consistent level of performance or aesthetic appeal.

123. (C) Synthetic fibres like polyester
Heat transfer printing, particularly the sublimation method, is most effective on synthetic fibres like polyester. This process involves dyes that turn into gas when heated and then penetrate and bond with the synthetic polymer chains. Natural fibres do not have the same molecular structure required to trap these dyes, resulting in poor colour fastness and faint images. This makes synthetic materials.

124. (B) The warp, weft, or both are tie-dyed before weaving to create the pattern.
Ikat is a complex and artistically significant textile technique where the pattern is created through a process of resist dyeing. Specifically, the yarns are grouped and tightly bound into specific designs before they are dyed. Once the resist is removed, the pre-patterned yarns are

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then meticulously woven into fabric. This results in the characteristic blurred edges of the motifs and.

125. (C) Quality control and safety testing
Quality control and safety testing are critical components of textile manufacturing, particularly for products intended for vulnerable populations like children. Flammability testing ensures that materials used in sleepwear do not ignite easily or burn rapidly, significantly reducing the risk of injury. This rigorous evaluation protects consumers and ensures that manufacturers comply with legal safety standards and industry regulations regarding.

126. (C) To treat and clean the wastewater before it is discharged into the environment.
An effluent treatment plant is a vital industrial facility designed to manage and purify the wastewater generated during textile dyeing and finishing processes. This water often contains harmful chemicals, synthetic dyes, and heavy metals that can severely damage local ecosystems. By using physical, chemical, and biological treatments, the plant removes these contaminants, ensuring that the discharged water meets environmental safety.

127. (A) 3, 4, 1, 2
The history of textiles progresses from ancient practices to modern innovations. The domestication of natural fibres like cotton and flax occurred thousands of years ago. The Industrial Revolution brought the power loom, which mechanized fabric production. In the twentieth century, the invention of nylon marked the start of the synthetic fibre era. Finally, the development of nano-textiles represents the latest technological frontier.

128. (B) Medical textiles (Meditech)
Medical textiles, or Meditech, are specialized materials engineered for use in healthcare environments where safety and hygiene are paramount. Surgical gowns are a prime example, as they must provide a reliable barrier against blood and other bodily fluids to prevent cross-contamination. These products utilize advanced technical textiles that offer high liquid repellency and breathability, ensuring the protection of medical professionals during.

129. (D) Experimental research
Experimental research is a rigorous scientific methodology used to determine whether a specific cause leads to a particular effect. In this approach, the researcher manipulates an independent variable while controlling other factors to observe the resulting change in a dependent variable. This type of research is essential for testing new chemical finishes or manufacturing processes where precise and reliable results are required.

130. (A) Ply yarn
A ply yarn is constructed by twisting together two or more individual single yarns. This process is used to create a thicker, stronger, and more uniform strand than a single yarn alone. The number of plies used can vary, such as two-ply or three-ply, and the direction of the final twist often opposes the twist of the individual single yarns to.

131. (D) Strong when wet
Wool is a natural protein fibre with a unique set of physical properties, including excellent thermal insulation and inherent flame resistance. However, one of its significant weaknesses is that it loses a substantial portion of its strength when wet. This characteristic means that wool garments must be handled with care during laundering to prevent stretching or damage to the fabric structure.

132. (B) Finished edge that runs parallel to the warp yarns.
The selvedge is the narrow, tightly woven finished edge of a fabric that prevents it from unravelling during the manufacturing process and subsequent handling. It runs along the entire length of the fabric roll, parallel to the warp yarns. This edge often contains information about the manufacturer or fabric composition and provides a stable boundary for cutting and garment construction steps.

133. (B) Statement I is false, but Statement II is true.
Mercerization is a specialized chemical finish specifically developed for natural cellulosic fibres like cotton, rather than synthetic materials like polyester. The treatment involves the use of caustic soda, which permanently alters the fibre structure to increase its tensile strength and

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A twill weave is one of the three basic woven structures and is easily identified by the presence of diagonal lines or ribs on the surface of the fabric. This characteristic effect is created by a specific interlacing pattern where the weft yarns float over two or more warp yarns in a staggered sequence. The twill structure provides increased durability.

189. (D) Acrylic
Acrylic is a synthetic fibre that was specifically developed to mimic the desirable properties of natural wool. It is lightweight, soft, and provides excellent warmth, making it a popular choice for sweaters, blankets, and other winter wear. Unlike wool, acrylic is more resistant to moths and chemicals and is often easier to launder, while still offering a similar.

190. (B) It bypasses the need for spinning fibres into yarn.
The most significant characteristic of non-woven fabric production is that it eliminates the traditional and time-consuming steps of spinning fibres into yarn and then weaving or knitting that yarn. Instead, individual fibres are assembled directly into a web and then bonded together using mechanical, chemical, or thermal means. This streamlined process allows for high-volume production of diverse materials.

191. (B) 1, 2, 3 and 5
Dyeing and printing are essential textile processes used to add colour. Dyeing provides a uniform solid colour throughout the material, while printing applies localized colour to create patterns. Traditional methods include block printing with hand-carved tools and Batik, which uses wax as a resist. In contrast, discharge printing is a technique where colour is actually removed from a pre-dyed.

192. (B) Durable press finish
A durable press finish, also known as a wrinkle-resistant finish, is a chemical treatment applied to fabrics to help them resist creasing and maintain a smooth appearance after laundering. This is achieved by using cross-linking resins that stabilize the fibre structure, significantly reducing the need for ironing. This functional finish is particularly popular for cotton and blended apparel fabrics.

193. (A) P-3, Q-1, R-4, S-2
Traditional textile crafts are deeply rooted in specific geographic regions of India. Phulkari embroidery is native to Punjab, while the Paithani silk weave originates from Maharashtra. Ajrakh block printing is a specialty of the Kutch region in Gujarat. Kasuti is a unique form of hand embroidery from the state of Karnataka. Each of these crafts represents a distinct cultural heritage.

194. (C) 3%
Percentage shrinkage is a standard measurement used in textile quality control to express how much a fabric contracts after laundering. It is calculated by dividing the change in dimension by the original length and multiplying by one hundred. In this example, the fabric lost three centimeters from its original one hundred centimeter length, resulting in a three percent shrinkage rate.

195. (B) Smart textiles / Technical textiles
Smart textiles, also known as intelligent textiles, represent an advanced category of technical textiles that can sense and respond to environmental stimuli. Fabrics embedded with sensors to monitor physiological signals like heart rate or body temperature are a prime example. These innovative materials find applications in healthcare, high-performance sports, and military equipment, where real-time monitoring of the wearer's health is.

196. (A) Recycling involves breaking down materials, while upcycling often refashions them.
While both recycling and upcycling are sustainable practices, they involve different processes and outcomes. Recycling is an industrial method that involves breaking down post-consumer waste into raw fibres to create new materials. Upcycling is a creative approach where the original fabric structure of a discarded product is kept intact but refashioned into a new item of higher value or.

197. (C) A planar substance constructed from fibres or yarns.
A fabric is a flexible, planar material manufactured through the systematic assembly of textile fibres or yarns. The most common methods for constructing fabrics are weaving

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small individual molecules called monomers are chemically bonded together in a repeating sequence. The resulting polymer melt or solution is then extruded through a spinneret to create solid filaments, which are subsequently processed into textile.

143. (C) Non-woven (spun-bond or melt-blown)
Non-woven manufacturing techniques, specifically spun-bond and melt-blown processes, are the most suitable methods for producing disposable face masks. These methods create a dense web of microfibres directly from synthetic polymers, providing excellent filtration efficiency and breathability. Because the process is high-speed and cost-effective, it allows for the mass production of the affordable, single-use protective equipment required for healthcare and.

144. (D) All finishes are applied to improve only the appearance of a fabric.
Textile finishes serve diverse roles beyond just improving the visual appearance of a material. While aesthetic finishes do focus on looks and feel, functional finishes are specifically engineered to enhance performance or safety characteristics. These can include making a fabric resistant to fire, water, or shrinkage. Therefore, it is incorrect to assume that all finishing processes are solely for decorative.

145. (A) Both A and R are true and R is the correct explanation of A.
Digital printing has revolutionized the textile industry by allowing for the direct transfer of designs from digital files to fabric. Unlike traditional screen or roller printing, it does not require the expensive and time-consuming creation of stencils or engraved cylinders. This eliminates high setup costs and makes it commercially viable to produce small quantities or unique prototypes quickly and efficiently.

146. (B) Chikankari of Lucknow
Traditional Indian textiles are often identified by the primary craft used in their creation. Banarasi Brocade, Kanchipuram silk, and Patola are all primarily defined by their sophisticated and unique weaving techniques performed on a loom. In contrast, Chikankari is defined by the art of hand embroidery applied to a pre-existing fabric. While the base material is important, the embroidery itself is the.

147. (C) The number of units to be tested and the criteria for acceptance or rejection.
A sampling plan is a formal document used in quality control that outlines the statistical procedures for inspecting a production batch. It specifies exactly how many items must be selected for testing and provides clear benchmarks for what constitutes a pass or a fail for the entire lot. This systematic approach ensures that quality decisions are consistent, objective, and statistically valid for large shipments.

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148. (A) They are designed and engineered for a specific function, not for aesthetics.
Technical textiles are a distinct category of materials where the primary focus of design and manufacturing is on functional performance rather than visual appeal. These textiles are engineered to possess specific technical properties such as high strength, chemical resistance, or thermal protection. They are utilized in demanding sectors like the military, aerospace, and medical industries, where their performance is critical for.

149. (C) Recycling
Textile recycling is an industrial process that involves collecting post-consumer waste and mechanically or chemically breaking it back down into its constituent fibres. These reclaimed fibres can then be blended with virgin materials and spun into new yarns to create fresh textile products. This process is essential for creating a circular fashion economy, as it reduces the reliance on new resources.

150. (A) 1, 2, 3 and 4
Research methodologies are chosen based on the type of data and insights required for a study. Qualitative research explores subjective experiences, while quantitative research analyzes numerical facts. Historical research focuses on interpreting the past, and action research aims to solve practical issues. In contrast, survey research is actually an excellent tool for gathering opinions and preferences from a large and diverse population.

151. (C) Chemical solubility test

provide a silky lustre. While the finish is highly effective for cotton, it is not used for synthetic textiles like.

134. (B) Dyeing imparts colour to the entire fabric, while printing applies colour to specific areas.
Dyeing and printing are the two primary methods used to add colour to textiles, but they differ in how the colorant is applied. Dyeing is a process where the entire material is immersed in a dye bath to achieve a uniform, solid colour throughout the fibres. Printing, however, involves applying colorant to specific parts of the fabric surface to create patterns.

135. (A) Connoisseurship and cultural knowledge
Connoisseurship in textiles refers to the expert knowledge and critical judgment required to identify and authenticate traditional fabrics based on their unique characteristics. This involves recognizing specific regional motifs, traditional colour palettes, and the specialized weaving or embroidery techniques used by different communities. This skill is essential for museum curators, collectors, and those working in the preservation of heritage textile.

136. (C) Abrasion resistance and pilling
The Martindale tester is a versatile laboratory instrument widely used in the textile industry to evaluate the durability of fabric surfaces. It performs two critical tests: abrasion resistance, which measures a fabric's ability to withstand surface wear caused by rubbing, and pilling resistance, which assesses its tendency to form small fibre balls (pills) on the surface. The results of these tests help determine whether a material is suitable for its intended end use and capable of maintaining its appearance and performance over time.

137. (C) Certain Azo dyes
Azo dyes are a large class of synthetic colorants, but specific members of this group have been banned by international safety regulations. These particular dyes can break down under certain conditions to release aromatic amines, some of which are known carcinogens. Because these substances can be absorbed through the skin, their use is strictly prohibited in clothing and other consumer textiles.

138. (B) Excessive fabric waste generated during garment production.
Zero-waste design is a sustainable manufacturing strategy aimed at solving the significant problem of textile waste created during the cutting of garment patterns. Traditionally, a large percentage of fabric is discarded as scraps that are too small to be used. Zero-waste designers use ingenious pattern-cutting techniques to ensure every square inch of the fabric roll is utilized, effectively eliminating pre-consumer.

139. (C) Historical research
Historical research is a systematic investigation into past events, people, or movements to reconstruct and understand what occurred. In this scenario, the historian uses primary and secondary sources to trace the movement and economic impact of traditional textiles like Kanchipuram sarees over time. This approach helps in understanding the cultural and economic significance of textile traditions and how they evolved.

140. (A) P-3, Q-4, R-2, S-1
Textile fibres are classified based on their underlying chemical composition. Cotton is a natural cellulosic fibre harvested from plants. Wool and silk are both natural protein fibres, but wool is composed of keratin while silk is primarily fibroin. Polyester is a synthetic polymer manufactured through chemical processes. Understanding these chemical classes is essential for determining the appropriate dyeing, finishing, and care.

141. (C) A flattened, twisted tube or ribbon.
Under a microscope, cotton fibres exhibit a very distinctive physical appearance that aids in their identification. The individual fibres look like flattened, collapsed tubes with a characteristic twist known as a convolution. These twists occur naturally as the fibre dries and are a hallmark of cotton, distinguishing it from other natural or synthetic fibres that may appear as smooth or scaly.

142. (B) Polymerization
Polymerization is the fundamental chemical process used to create the long-chain molecules, or polymers, that form synthetic fibres like nylon and polyester. During this reaction,

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160. (B) P-4, Q-1, R-3, S-2
Specialized instruments are required to measure the diverse physical and chemical properties of textiles. A spectrophotometer is used for precise colour measurement and matching. A tensile tester determines the mechanical strength of yarns and fabrics. A crockmeter assesses how well a dye resists rubbing. Finally, a microscope is essential for examining the fine details of fibre morphology and internal cross-sections.

161. (B) Reeling
Reeling is the process of unwinding the delicate, continuous filaments of silk from the cocoon of the silkworm. After the cocoons are softened in warm water to loosen the natural sericin gum, the ends of several filaments are gathered and wound onto a reel to form a single, stronger silk thread. This stage is critical for maintaining the fibre's exceptional length.

162. (A) Both Statement I and Statement II are true.
The internal structure of woven and knitted fabrics is described using specific technical terms. Woven fabrics are characterized by two sets of perpendicular yarns: the longitudinal warp and the transverse weft. In contrast, the structure of knitted fabrics is defined by horizontal rows of loops called courses and vertical columns of loops called wales. These terms are essential for textile analysis and.

163. (B) Source or origin
Dyes are broadly classified into natural or synthetic categories based on the origin of the colorant. Natural dyes are obtained from biological sources, including plants, insects, and minerals. Synthetic dyes are chemically manufactured from petroleum or coal tar derivatives. While natural dyes have a long history, synthetic dyes are now more common due to their superior colour range, consistency, and durability.

164. (A) A recurring, decorative design or figure.
In the study of traditional textiles, a motif is a recurring decorative element or figure that forms a central part of the design. These motifs often carry deep cultural, symbolic, or religious meanings and are used to identify the regional origin of a textile. Common examples include floral patterns, geometric shapes, or stylized animals, which are applied through weaving or.

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165. (C) The fabric's colour-fastness.
Measuring the weight of a fabric in GSM is essential for determining many of its physical and economic characteristics, such as its thickness, potential durability, and suitability for specific garments. It also directly affects the cost of the material. However, the weight of the fabric has no direct relationship with its colour-fastness, which is determined by the type of dye used.

166. (A) Produced, used, and disposed of in a way that minimizes environmental impact.
An eco-friendly textile is defined by its reduced ecological footprint throughout its entire lifecycle. This includes using sustainable raw materials, employing manufacturing processes that minimize water and energy use, avoiding toxic chemicals, and ensuring the product can be safely recycled or composted at the end of its life. This comprehensive approach ensures that the textile contributes to a healthier environment and.

167. (D) Nano textiles or advanced finishes
Textiles offering enhanced UV protection are typically created using advanced chemical finishes or nanotechnology. These treatments involve applying specialized UV-absorbing or reflecting compounds to the fabric surface or embedding them within the fibres. This technological development provides an invisible barrier that protects the wearer from harmful solar radiation without compromising the comfort, breathability, or aesthetic qualities of the original textile.

168. (A) How do artisans perceive the impact of modernization on their traditional craft?
Qualitative research is specifically designed to explore subjective experiences and personal perspectives that cannot be easily measured with numbers. Questions concerning human perceptions, cultural values, and personal stories are best addressed through this approach. By using in-depth interviews and open-ended questions, researchers can uncover the deep, complex narratives of individuals like traditional artisans, providing insights that numerical surveys cannot.

169. (C) Denim

Denim is a classic and widely recognized example of a twill weave fabric. This construction is characterized by a specific interlacing pattern that produces prominent diagonal lines or ribs on the surface of the material. The twill structure makes denim exceptionally durable and resistant to wear and tear, which is why it is the preferred choice for heavy-duty workwear and casual.

170. (D) 1, 2, 3 and 4
Understanding the physical properties of textile fibres is essential for predicting the performance of the final fabric. Tenacity describes the fibre's strength, while absorbency measures its ability to take up moisture. Resiliency indicates how well a fibre resists crushing and recovers its shape. Lustre refers to the way light reflects off the fibre's surface, giving it a characteristic shine or.

171. (B) Knitted fabrics
Wales and courses are technical terms used to describe the structural layout of knitted fabrics. Wales are the vertical columns of loops that run along the length of the fabric, while courses are the horizontal rows of loops that run across its width. The density of these wales and courses determines the weight, stretch, and overall quality of the knitted.

172. (B) Is in its raw, unfinished state after construction.
Greige fabric refers to textile material that has been newly woven or knitted but has not yet undergone any dyeing or finishing processes. In this raw state, the fabric often contains natural impurities, sizing agents used during weaving, and an off-white or yellowish tint. Greige goods are the starting point for all subsequent wet processing treatments that add colour and.

173. (D) Mechanized the printing process, allowing for high-speed production.
Roller printing was a revolutionary development in the textile industry because it transitioned fabric decoration from a manual craft to a high-speed industrial process. By using engraved metal cylinders to apply dye, manufacturers could produce thousands of meters of printed fabric in a single day with consistent results. This mechanization significantly reduced costs and made decorated textiles accessible to a broader consumer.

174. (D) Phulkari
Phulkari is a vibrant traditional embroidery from the Punjab region, known for its unique technique and brilliant colours. It primarily uses a darning stitch, which is worked from the reverse side of the coarse cotton fabric using untwisted silk threads. This method creates elaborate geometric and floral motifs on the front surface, characterized by a smooth, satin-like appearance and a.

175. (A) Both A and R are true and R is the correct explanation of A.
Fabric shrinkage testing is a critical step in the garment manufacturing process to ensure that the finished apparel remains true to its intended size after domestic washing. If a fabric is prone to excessive shrinkage, the resulting garment may become too small or distorted after the first laundry cycle. This leads to customer dissatisfaction and returns, making quality control testing.

176. (B) A glass fibre fire blanket
Inorganic technical textiles are made from mineral-based or metal-derived fibres rather than from organic plant or animal sources. A glass fibre fire blanket is a prime example, as glass is an inorganic material that is naturally non-combustible. These textiles are engineered for extreme environments where resistance to fire, high temperatures, or corrosive chemicals is the primary functional requirement for.

177. (C) Basic or fundamental research
Basic or fundamental research is a type of scientific inquiry driven by a desire to expand human knowledge and develop new theoretical frameworks. Unlike applied research, it does not aim to solve a specific, immediate problem or have a direct commercial application. Instead, it focuses on understanding the underlying principles of a subject, providing the essential foundation for future practical innovations.

178. (A) The fineness or thickness of a yarn
Yarn count is a numerical expression used in the textile industry to define the fineness or thickness of a yarn. There are different systems for measuring yarn count, including direct systems like tex and denier, and indirect systems like the English cotton count. Regardless of the

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system used, the yarn count is a fundamental specification that determines the weight and texture.

179. (C) A natural bast fibre
Linen is a prestigious natural fibre obtained from the stem of the flax plant, making it a classic example of a bast fibre. These fibres are located in the inner bark or phloem of the plant stalk and provide structural support. The extraction of linen requires a process called retting to break down the plant tissues and reveal the long.

180. (B) Will unravel or 'run' if a yarn is broken.
Weft-knitted fabrics are constructed by forming horizontal rows of interlocking loops using a single yarn. Because the structure is interconnected, a break in any single loop can cause the entire column of loops to come apart, a phenomenon commonly known as a run or a ladder. This characteristic means that weft-knits require careful handling and often include finishing treatments.

181. (B) To add body and firmness
A stiffening finish is a mechanical or chemical treatment applied to a fabric to increase its rigidity and body. This is often achieved by applying substances like starch, resin, or gum to the fabric surface. Stiffening is used for specific garment components like collars and cuffs, or for home textiles like curtains, to help them maintain their desired shape.

182. (B) Batik
Batik is an artistic and manual resist-dyeing method that is perfectly suited for creating one-of-a-kind designs on garments. It involves applying molten wax to the fabric surface using a specialized tool or brush to block dye penetration. Once the fabric is dyed and the wax is removed, a unique, hand-crafted pattern is revealed, often featuring the characteristic veined effect.

183. (B) Intricate, Persian-inspired motifs woven in gold or silver zari brocade.
A Banarasi Saree is characterized by its luxurious silk fabric and elaborate brocade work, which is woven on a specialized loom. The design typically features intricate motifs like the paisley or floral patterns, influenced by Persian art, which are executed using supplementary weft threads made of gold or silver zari. This traditional Indian textile is a symbol of elegance.

184. (B) Martindale or Wyzenbeek abrasion test
Abrasion resistance is a critical measure of a fabric's durability, particularly for materials intended for high-wear applications like upholstery or workwear. The Martindale and Wyzenbeek tests are the industry-standard laboratory procedures used to evaluate this property. These tests use mechanical action to rub the fabric against an abrasive surface under controlled conditions until a specified level of wear or failure occurs.

185. (B) 4, 2, 1, 3
The wet processing of cotton fabric follows a specific chronological order to ensure high-quality results. It begins with singeing and desizing to remove surface fuzz and starch. This is followed by scouring and bleaching to clean the fabric and provide a white base. Next, the fabric is dyed or printed to add colour. Finally, finishing treatments are applied to.

186. (B) Provides a credible, third-party verification of a product's environmental claims.
Eco-labels are essential tools for promoting sustainability in the textile industry by providing consumers with reliable information about a product's environmental performance. These labels represent an independent, third-party certification that the textile has met strict environmental and social criteria during its production. This verification helps build consumer trust and allows shoppers to make informed decisions that support responsible manufacturing practices.

187. (B) Using existing information and facts to make a critical evaluation.
Analytical research is a systematic type of inquiry where the researcher utilizes information that is already available to perform a critical evaluation. Rather than gathering new data, this approach focuses on breaking down complex information to understand why a situation exists or how different variables are related. This method is essential for testing theories and developing a deeper understanding.

188. (C) Twill weave

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While burning and microscopic tests provide valuable clues, the chemical solubility test is considered the most definitive method for identifying textile fibres. This laboratory procedure involves exposing a fibre sample to various specific chemical reagents and observing whether it dissolves. Because different fibres have unique chemical structures, their reaction to these solvents provides a scientific confirmation of their identity and chemical.

152. (A) The triangular cross-section of the fibre, which reflects light.
The luxurious and characteristic soft lustre of silk is a direct result of the unique physical shape of the individual silk filaments. Under magnification, silk fibres exhibit a smooth, triangular cross-section that acts like a prism, reflecting light at many different angles. This structural feature creates a shimmering effect that is highly prized and difficult to replicate in other natural or.

153. (B) They generally have lower durability and strength.
Although non-woven fabrics offer significant advantages in terms of production speed and cost, they generally possess lower mechanical strength and durability compared to woven or knitted fabrics. The lack of a structured yarn interlacing or interlocking system means that the bonds between individual fibres can be more easily broken under stress. Consequently, these materials are often restricted to single-use or disposable.

154. (B) Drying fabric to a specified width under tension and straightening the grain.
Tentering is a mechanical finishing process that involves passing a fabric through a large machine called a tenter frame. The fabric is held by its edges and pulled to a precise, uniform width while being dried with hot air. This treatment ensures that the fabric's horizontal and vertical yarns are perfectly aligned and that the dimensions are stabilized before further.

155. (C) Bandhani
Bandhani is a classic example of a dyed textile where the identity of the craft is derived from the resist-dyeing technique rather than the weave of the fabric. This process involves tightly tying small points on the cloth with thread to prevent dye penetration, creating intricate patterns of dots and circles. While Jamdani and Brocade are weaving techniques, Bandhani's beauty lies.

156. (D) Create the initial design concept for a garment collection.
Textile testing is an essential technical function used to ensure that materials are safe, durable, and meet professional performance standards. It plays a vital role in quality control, material selection, and resolving commercial disputes. However, the initial creative design concept for a collection is a separate process driven by artistic vision and fashion trends, occurring before any technical testing of materials.

157. (A) Viscose rayon produced from bamboo pulp.
Most commercial bamboo fabric is actually a type of regenerated cellulose fibre, specifically bamboo viscose. The process involves dissolving the natural cellulose found in bamboo stalks using chemical solvents and then extruding the resulting solution into solid filaments. While marketed as eco-friendly because bamboo grows rapidly, the chemical intensive manufacturing process is identical to that used for traditional viscose rayon production.

158. (A) Occupational clothing
Occupational clothing refers to specialized apparel designed to provide protection and comfort to workers in hazardous or demanding professional environments. These garments are engineered using technical textiles that offer resistance to specific threats like high heat, corrosive chemicals, or mechanical impacts. The design of these textiles prioritizes functional safety over fashion, ensuring that workers are safeguarded while they perform their specialized.

159. (C) Descriptive research
Descriptive research is a methodology used to provide an accurate and systematic description of a current phenomenon or population. It focuses on answering the question of what is happening in the present moment, without attempting to manipulate variables or establish cause-and-effect relationships. This approach is valuable in the textile industry for documenting current market conditions, consumer habits, and common manufacturing.

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and knitting, but they can also be made through non-woven processes like bonding or felting. The resulting material possesses sufficient strength, flexibility, and surface area to be used in clothing and diverse industrial.

198. (A) Surface scale structure.
Wool fibres have a unique physical structure characterized by a series of overlapping microscopic scales on their surface. When wool is exposed to moisture, heat, and mechanical agitation, these scales interlock and cause the fibres to become permanently entangled, a process known as felting. This property allows wool to be easily shaped and manipulated into dense, non-woven materials like.

199. (C) The intended application or purpose of the material.
The term end use is a fundamental concept in the textile industry that refers to the specific purpose for which a fibre or fabric is intended. This could include apparel, home furnishings, or technical applications like geotextiles. Understanding the end use is critical for manufacturers because it dictates the necessary performance specifications, such as strength, durability, and safety features.

200. (A) Both A and R are true and R is the correct explanation of A.
Knitted fabrics are the preferred choice for form-fitting garments like hosiery and athletic wear because of their exceptional stretch and comfort. The internal structure of a knit, which consists of interconnected loops of yarn, allows the fabric to expand easily in all directions. This flexibility enables the garment to follow the body's contours closely while providing freedom of movement and.

201. (C) Temporary, Durable, Permanent
Textile finishes can be classified based on their longevity and resistance to laundering or dry cleaning. Temporary finishes are removed after the first wash, while durable finishes last through multiple cleaning cycles but gradually lose their effectiveness. Permanent finishes are chemically or mechanically bonded to the fabric and remain effective throughout the entire useful life of the product without requiring any reapplication.

202. (A) Jamdani
Jamdani is a highly sophisticated and traditional weaving technique where intricate motifs are hand-woven into a fine muslin base. It uses a discontinuous supplementary weft method, which means that the decorative threads are added only where the pattern is required, rather than running across the entire width of the fabric. This results in delicate, artistic patterns that appear to float on.

203. (D) Garment testing
Garment testing is the final stage of quality control in the apparel industry, focusing on the performance and construction of the completed product. Testing the strength of a seam is a vital part of this process, as it ensures that the garment can withstand the stresses encountered during normal wear and washing without coming apart. This protects consumers and.

204. (C) Specific dyes (like certain azo dyes) that are proven to be harmful to human health or the environment.
Banned dyes are specific chemical colorants that have been prohibited by international safety and environmental regulations. These bans are typically implemented because the dyes can break down into toxic or carcinogenic substances, such as certain aromatic amines, which pose health risks to consumers and workers. Furthermore, some dyes are banned because of their negative impact on aquatic life and ecosystems.

205. (A) Recent developments in textiles
Smart textiles that react to environmental changes, such as thermochromic fabrics that change colour with temperature, represent one of the most exciting recent developments in the textile industry. These materials integrate advanced chemistry and technology into traditional fabrics to provide new functional and aesthetic possibilities. They are used in diverse applications, from high-fashion apparel to specialized medical and safety equipment.

206. (C) Quantitative research
Quantitative research is a systematic type of investigation used to identify measurable relationships between variables through the collection of numerical data. A study comparing weave types and tear strength is a perfect example, as it involves taking exact physical measurements

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Action research is a practical and collaborative inquiry process conducted by professionals to address and resolve immediate problems within their own work environment. In this scenario, the researcher works directly with a local dyeing unit to find a specific solution for improving their product quality. This method emphasizes localized improvement and practical outcomes over general theoretical knowledge, ensuring that the findings.

226. (B) P-3, Q-4, R-1, S-2
Understanding basic textile terminology is fundamental for students and professionals in the industry. A fibre is the smallest hair-like component of a material. A yarn is a continuous strand formed by twisting fibres together. A weave refers to the specific interlacing pattern used on a loom. Finally, a fabric is the completed planar textile structure made through weaving, knitting, or other.

227. (C) Cotton
Ginning is the critical first mechanical step in the processing of raw cotton. It involves using specialized machinery to separate the valuable cotton fibres from the seeds and other natural debris harvested from the field. Once the fibres are separated, they can be cleaned and compressed into large bales, ready for transportation to spinning mills for the next stage of manufacturing.

228. (C) Non-woven
Non-woven fabrics are a unique category of textiles that are produced directly from a web or sheet of fibres without the need for weaving or knitting. These materials are constructed by bonding the individual fibres together using various methods, including heat, chemical adhesives, or mechanical interlocking. This process is highly efficient and allows for the creation of fabrics with diverse functional.

229. (C) Remove surface fuzz and reduce pilling on cellulosic fabrics.
Biopolishing is an environmentally friendly chemical finish that uses specific enzymes, such as cellulase, to treat cellulosic fabrics like cotton. The enzymes selectively break down the microscopic protruding fibres on the fabric surface, resulting in a much smoother finish with increased lustre. This process significantly reduces the fabric's tendency to pill, improving its overall quality and extending the useful life.

230. (D) Roller printing or Rotary screen printing
For large-scale industrial textile production, mechanical printing methods like roller or rotary screen printing are the most economically efficient choices. These systems are designed for high-speed operation and consistent quality, capable of producing thousands of meters of printed fabric in a single day. The high initial setup costs for screens or engraved rollers are offset by the low per-unit cost.

231. (B) The stitches appear identical on both sides of the fabric.
Kasuti is a unique form of hand embroidery from the state of Karnataka, characterized by its extraordinary precision and geometric designs. A defining feature used to identify authentic Kasuti is that the embroidery is worked in such a way that the patterns appear identical on both the front and the back of the cloth. This is achieved through careful planning and execution.

232. (C) Human sweat
Color fastness to perspiration is a critical quality test for apparel, particularly for garments that come into close contact with the body. During this laboratory test, a fabric sample is soaked in a chemical solution specifically formulated to simulate the acidic or alkaline nature of human sweat. The sample is then placed under pressure and evaluated for any fading or staining.

233. (A) Creating products that can be safely and completely recycled or composted.
The cradle-to-cradle concept is a sophisticated sustainable design framework that focuses on creating products for a truly circular economy. It emphasizes that all materials used in a textile should be either biological nutrients that can be safely composted or technical nutrients that can be indefinitely recycled without loss of quality. This approach aims to eliminate waste by design.

234. (B) Technical textiles
The use of phase-change materials in textiles is an advanced application within the field of technical textiles. These specialized materials are integrated into fabrics to help regulate the

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216. (B) A single spun cotton yarn
A simple yarn is characterized by a uniform diameter and a consistent amount of twist along its entire length. A single spun cotton yarn is the most common example, produced by twisting together staple fibres to form a continuous strand. In contrast, novelty yarns like slub or chenille are designed to have intentional irregularities and decorative effects for aesthetic.

217. (A) 1, 3, 2
The tensile strength of textile fibres can change significantly when they are wet. Cotton is unique because it actually becomes stronger when saturated with water. Wool, like most protein fibres, loses some of its strength when wet. Rayon, being a regenerated cellulosic fibre, experiences a very significant loss of strength when wet, making it much more vulnerable to damage during.

218. (A) Fabric density or thread count
Fabric density, commonly referred to as thread count, is a measure of the number of warp and weft yarns within a square inch of woven fabric. A higher thread count usually indicates a more compact, finer, and often more durable material with a smoother surface. This specification is a key indicator of quality for many products like high-end bed linens.

219. (B) Statement I is false, but Statement II is true.
Non-woven fabrics are not typically used for high-end tailored apparel like suits because they generally lack the durability, flexibility, and elegant drape of woven or knitted fabrics. While they are efficient and cost-effective for many applications, their bonded structure is more prone to tearing and deformation. Woven fabrics remain the superior choice for garments requiring structure and lasting wear.

220. (A) Produce fabrics with heathered or mottled colour effects.
Stock dyeing involves adding colour to the raw fibres before they are spun into yarn or constructed into fabric. This early-stage process allows manufacturers to blend differently coloured fibres together to create attractive heathered, tweed, or mottled visual effects in the final product. While it provides high colour penetration, it is a less flexible method for responding to quick.

221. (B) Specific regional variations in motif, colour palette, and weaving complexity.
Identifying traditional Indian textiles like different types of Ikat requires a deep understanding of regional variations in artistic style and technical execution. While both may use the ikat technique, an expert can distinguish them by the specific traditional motifs, characteristic colour combinations, and the overall complexity of the woven design. This knowledge is essential for the authentication and preservation of cultural.

222. (C) That loose fibres have migrated to the surface and formed small balls.
Pilling is a common surface defect that occurs in textiles due to friction and wear. It happens when loose or broken fibres on the fabric surface become entangled and form small, unsightly balls known as pills. This phenomenon is more common in synthetic and blended fabrics where the fibres are strong enough to hold the pills onto the material rather than falling.

223. (B) They can be imparted functional properties without changing the fabric's hand or breathability.
One of the greatest advantages of using nano-finishes in the textile industry is their ability to add advanced functional properties at the molecular level. Because these treatments are so microscopic, they can provide benefits like permanent stain resistance or antimicrobial protection without altering the fabric's original soft feel or natural breathability. This makes them ideal for improving the performance of high-quality.

224. (B) Using an old sari to create a new designer cushion cover.
Upcycling is a creative and sustainable practice that involves transforming discarded or old textile items into new products of higher value or quality. Using an old sari to make a high-end designer cushion cover is a perfect example, as it retains the original fabric but gives it a new, more valuable life. This process significantly reduces waste and conserves resources within.

225. (B) Action Research

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manufacturers can fulfill consumer expectations for durability and comfort while complying with international industry standards. This systematic approach protects the brand's reputation and minimizes financial losses from defective goods and customer returns in the market.

244. (D) An effort to reduce plastic waste and create a more sustainable textile industry.
The production of recycled polyester, commonly known as rPET, is a significant advancement in sustainable textile manufacturing. By converting post-consumer plastic bottles into high-quality textile fibres, the industry can significantly reduce the volume of plastic waste that ends up in landfills or oceans. This practice also consumes less energy and water than the production of virgin polyester from petroleum.

245. (B) The use of the sewing machine
The history of the apparel industry includes both ancient tools and very recent technological advancements. The invention of the sewing machine was a significant milestone of the nineteenth century that revolutionized garment construction and mass production. In contrast, developments like zero-waste design, textile recycling, and the creation of smart textiles are modern innovations focused on sustainability and high-functional performance in.

246. (B) Understand and interpret past events related to textiles.
Historical research in the field of textiles is a systematic investigation aimed at accurately documenting and interpreting the development of textile traditions, techniques, and industries over time. By examining primary sources like ancient fabric fragments, historical records, and traditional tools, researchers can reconstruct the past and understand the cultural and economic significance of textile practices across different eras and.

247. (B) Plain Weave
The plain weave is the most fundamental and commonly used of all woven structures, characterized by a simple and balanced interlacing pattern. In this weave, each weft yarn passes alternately over and under individual warp yarns across the entire width of the fabric. This creates a very stable and durable material that is identical on both the front and back.

248. (A) Petroleum
Most synthetic fibres, including the widely used polyester and nylon, are manufactured from chemical polymers that are primarily derived from petroleum-based sources. These fibres are created through industrial processes where crude oil and natural gas are processed into various chemical building blocks. This distinguishes them from natural fibres, which come from biological sources, and regenerated fibres from plant cellulose.

249. (C) They are constructed by interlacing yarns on a loom.
Non-woven fabrics are defined by their unique construction method, which completely bypasses the traditional steps of spinning and weaving. Instead of using a loom to interlace yarns, non-wovens are made by assembling individual fibres into a web and then bonding them together using heat, chemicals, or mechanical pressure. This direct production method is highly efficient and suitable for disposable products.

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250. (A) Rotary screen printing
Rotary screen printing is the most widely used industrial method for decorating textiles due to its exceptional speed and continuous operation. It uses perforated cylindrical screens that rotate at high speeds, allowing for the application of complex, multi-coloured patterns without any visible breaks or seams. This efficiency makes it ideal for producing high volumes of consistent, printed fabrics for the market.

251. (B) It must have a high length-to-width ratio.
Fibres are the fundamental building blocks of textile materials, characterized as fine, hair-like substances. To be effectively processed into continuous strands of yarn, a substance must exhibit a significantly high length-to-width ratio. This physical attribute is a mandatory requirement for the spinning process, ensuring that the individual fibres can be twisted together securely to form a cohesive structure.

252. (A) Their source or origin.
Textile fibres are systematically categorized based on their primary origin. Natural fibres

wearer's body temperature by absorbing, storing, or releasing heat as needed. This technology is widely used in high-performance sportswear, medical equipment, and protective clothing to improve comfort and safety in extreme environments.

235. (B) Type of data collected and the method of analysis.
The primary distinction between qualitative and quantitative research lies in the fundamental nature of the information they gather and how they process it. Quantitative research focuses on gathering numerical data to perform statistical analysis and identify patterns. Qualitative research seeks to understand human experiences and social phenomena through narrative data like interviews and observations, providing a deeper contextual understanding.

236. (C) Silk
Most natural textile fibres, such as cotton and wool, are found in relatively short lengths known as staple fibres. Silk is the only natural fibre that exists in a continuous filament form, harvested directly from the cocoon of the silkworm. These filaments can be hundreds of meters long, giving silk its characteristic smooth texture, natural strength, and luxurious lustre without.

237. (C) Tactile qualities, such as softness, stiffness, and drape
In the textile industry, the term hand refers to the subjective tactile experience of a person when touching and handling a fabric. This evaluation includes characteristics such as softness, stiffness, smoothness, and how the material drapes or hangs. A fabric's hand is a critical factor in determining its suitability for different garments and is influenced by fibre type, yarn construction.

238. (A) Both A and R are true and R is the correct explanation of A.
Cotton is widely preferred for clothing in warm and humid climates because of its exceptional moisture-absorbing properties. As a natural cellulosic fibre, cotton can absorb a large amount of sweat from the skin and then allow it to evaporate, providing a natural cooling effect for the wearer. In contrast, synthetic polyester is hydrophobic and traps moisture against the skin.

239. (B) They can be shaped to fit the contours of the body.
Knitted fabrics are exceptionally well-suited for hosiery and undergarments because of their unique interlooped structure, which provides inherent three-dimensional stretch. This flexibility allows the garment to expand and contract easily, conforming perfectly to the complex and varying contours of the human body. This snug, comfortable fit is essential for these types of apparel, ensuring freedom of movement for.

240. (B) 2, 3 and 4
Textile finishing processes are essential for enhancing the value and performance of a fabric. Functional finishes like flame retardancy improve safety, while aesthetic finishes like napping improve the look and feel. Some treatments, such as mercerization for cotton, serve both purposes by increasing lustre and strength. However, not all finishes are visible, and some involve complex chemical reactions within the.

241. (D) Garment dyeing
Garment dyeing is the process of adding colour to apparel after it has been fully cut and sewn into its final form. This technique is often used to create a soft, relaxed look with unique colour variations at the seams. It allows manufacturers to respond quickly to changing fashion colour trends by dyeing existing inventory of plain white finished garments.

242. (B) Slight irregularities and the pattern being visible on the reverse, without long floats.
Authenticating a hand-woven Jamdani textile requires a close inspection of the fabric's structure and motifs. In a genuine hand-woven piece, the intricate patterns are created using a discontinuous supplementary weft, resulting in motifs that are clearly visible on both sides of the cloth. Additionally, the subtle irregularities that come from manual craftsmanship distinguish it from the perfect uniformity of machine-made.

243. (C) Order to meet consumer expectations and industry standards.
Quality control in the textile industry is a vital technical function focused on ensuring that every product meets specific performance and safety benchmarks. By maintaining consistent quality,

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Fabric construction methods vary based on how yarns or fibres are combined. Weaving is a primary technique that involves the interlacement of two distinct sets of yarns at right angles on a loom. These sets are known as the warp and the weft. This specific structure provides the resulting fabric with a high degree of stability, rigidity, and durability.

262. (B) significant elasticity and flexibility.
Knitting is a fabric construction method that relies on the interlooping of one or more yarns rather than interlacement. This unique looped structure is responsible for the characteristic properties of knitted textiles. It imparts significant elasticity and flexibility to the material, allowing it to stretch and recover easily. Consequently, knitted fabrics are ideal for form-fitting garments and athletic wear.

263. (C) Non-woven
Most traditional textiles are created by first converting fibres into yarns and then constructing the fabric. However, non-woven fabrics follow a different production path by bypassing the yarn formation stage entirely. These materials are created by bonding or interlocking individual fibres directly through mechanical, thermal, or chemical means. This process results in a cohesive sheet used for specialized applications.

264. (D) A single-use, absorbent medical gown.
Non-woven fabrics are engineered for specific functional properties and are often more cost-effective than woven or knitted textiles. Since they can be designed for high absorbency and liquid repellency but may lack traditional drape and durability, they are frequently used in disposable applications. A single-use medical gown is a typical example where these characteristics are prioritized over long-term wear.

265. (A) They are more susceptible to snagging and unravelling.
While the interlooped structure of knitted fabrics provides excellent elasticity and drape, it also introduces certain physical vulnerabilities compared to woven materials. The loops in the knit can be easily caught or pulled, making the fabric more susceptible to snagging. Additionally, if a yarn breaks, the structure is more likely to unravel, which can compromise the garment's overall integrity.

266. (B) Aesthetic finishes improve appeal, while functional finishes improve performance.
Textile finishes are broadly classified into two categories based on their primary objectives. Aesthetic finishes are applied to modify the visual appearance or the tactile feel of a fabric, enhancing its overall appeal to the consumer. Functional finishes are engineered treatments designed to impart specific performance characteristics, such as safety or protection, ensuring the fabric meets certain practical usage requirements.

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267. (B) Water-repellent treatment
Functional finishes are treatments specifically designed to enhance the performance and utility of a textile material. A water-repellent finish is a prime example, as it provides the fabric with the ability to resist moisture, making it suitable for outdoor and protective clothing. Unlike aesthetic finishes that focus on appearance, this treatment directly impacts the fabric's functional interaction with the environment.

268. (A) withstand washing and remain effective over time.
The classification of textile finishes often depends on their durability, which refers to how long the treatment remains effective on the fabric. A durable finish is expected to withstand repeated laundering and wear throughout the entire life of the garment. In contrast, temporary finishes may be removed after a single wash, losing their intended effect and returning the fabric's original state.

269. (C) compatibility with the fibre type and end use.
When selecting a textile finish, manufacturers must consider several technical factors to ensure the desired outcome. The chosen finish must be compatible with the specific fibre type of the fabric and the intended end use of the final product. This careful selection ensures that the finish achieves its purpose effectively without negatively affecting other essential properties like strength or hand-feel.

270. (D) fabric in its raw, unprocessed state.

are obtained from biological sources, including various plants like cotton and animals such as sheep or silkworms. Man-made fibres are produced through complex chemical synthesis processes. This distinction in the source is the fundamental difference, determining the inherent properties and the specific production methods of the textile fibres.

253. (C) Spinning
The transformation of individual fibres into a continuous, usable strand involves a specific mechanical process. This technique, known as spinning, involves twisting multiple fibres together to create yarn. The resulting structure and the amount of twist applied during this stage are crucial factors that directly influence the overall strength, durability, and texture of the final textile fabric being produced.

254. (D) interlacement pattern of warp and weft yarns.
In the construction of woven fabrics, the term weave describes the specific arrangement of two distinct sets of yarns. These yarns are the longitudinal warp and the transverse weft, which cross each other at right angles. The unique pattern of this interlacement, such as plain or satin, determines the physical characteristics and visual appearance of the finished textile material.

255. (C) To assess the quality and suitability for a specific end-use.
Systematic identification of fibres and weave patterns is a fundamental step in the textile industry. This analytical process is necessary to evaluate the overall quality of the material and determine its appropriateness for specific applications. Understanding the composition and construction helps manufacturers and consumers predict how a fabric will perform and ensure it meets the requirements for its intended use.

256. (B) Ginning, Baling, Cleaning
Following the initial harvesting of cotton crops, the raw material undergoes several critical processing stages to prepare it for manufacturing. The first step is ginning to separate fibres from seeds, followed by baling for transport. Subsequently, the cotton is cleaned, carded, and combed to remove impurities and align the fibres. These steps are essential for producing high-quality textile yarns.

257. (D) Reeling
Silk production involves the cultivation of silkworms through a process called sericulture. These insects create cocoons composed of a single, continuous filament. To obtain usable silk for textile manufacturing, this delicate filament must be carefully unwound from the cocoon. This specific process of extracting the continuous strand is known as reeling, which results in the production of raw silk yarn.

258. (A) To extrude a polymer liquid into filaments.
In the manufacturing of man-made fibres like polyester, a chemical polymer liquid is synthesized first. This viscous substance is then forced through a specialized mechanical device called a spinneret, which contains numerous fine holes. As the liquid is extruded through these openings into a solidifying medium, it forms continuous filaments. This step is central to creating synthetic textile materials.

259. (C) enhance their strength by aligning polymer chains.
After man-made filaments are extruded through a spinneret and solidified, they undergo a process called drawing. This mechanical step involves stretching the continuous filaments to align their internal polymer chains in a more orderly fashion. This structural alignment significantly enhances the mechanical properties of the fibre, particularly its overall strength and durability, making it suitable for various textile applications.

260. (A) silk is a filament that is found, while polyester filaments are manufactured.
Natural silk and man-made polyester differ fundamentally in their initial formation. Silk is obtained as a pre-existing continuous filament produced naturally by silkworms, which is then harvested and reeled. In contrast, polyester filaments do not exist in nature and must be manufactured through chemical synthesis and extrusion processes. This distinction highlights the difference between biological origins and industrial production.

261. (D) Weaving

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and performing statistical analysis to determine the outcome. This approach provides objective evidence that can be used to improve textile engineering.

207. (D) Acrylic
Natural fibres are those that are obtained directly from biological or mineral sources. Cotton and jute are plant-based cellulosic fibres, while wool is an animal protein fibre. In contrast, acrylic is a synthetic, man-made fibre manufactured entirely from chemical polymers derived from petroleum. It was designed to mimic the properties of wool but is entirely artificial in its chemical composition.

208. (A) Rayon
Rayon was the first commercially successful man-made fibre, introduced in the early twentieth century as a more affordable alternative to natural silk. It is classified as a regenerated cellulose fibre because it is manufactured by chemically processing natural plant cellulose, usually from wood pulp. Although the production process is artificial, its chemical composition is similar to that of natural cellulosic.

209. (A) Greater dimensional stability and durability
Woven fabrics are generally preferred for applications like upholstery because of their superior dimensional stability and overall durability. The tight interlacing of warp and weft yarns creates a firm, stable structure that does not stretch or distort easily under pressure. This is essential for maintaining the shape and appearance of furniture over many years of heavy use and domestic wear.

210. (B) 1, 2 and 4
Traditional Indian textiles are identified by their unique regions and production methods. Phulkari is a vibrant embroidery from Punjab, and Patola is a prestigious double-ikat woven silk from Gujarat. Kalamkari is a renowned hand-painted or printed craft from Andhra Pradesh. In contrast, Chikankari is a delicate form of hand embroidery from Lucknow, rather than a printing technique as sometimes mistaken.

211. (C) London Shrunk process
The London Shrunk process is a traditional and highly effective mechanical finish used specifically for wool fabrics to control relaxation shrinkage. The process involves thoroughly wetting the fabric, often between layers of damp cloth, and then allowing it to dry slowly without any tension. This allows the wool yarns to relax and stabilize before the fabric is cut into.

212. (B) The speed of production and the shape of the screen.
Rotary and flat-bed screen printing are two industrial methods for decorating textiles, but they differ significantly in their mechanical configuration. Flat-bed printing uses large, flat screens and is a slower, intermittent process often used for larger patterns. Rotary screen printing uses continuous, perforated cylindrical screens that rotate at high speeds, allowing for rapid and efficient large-scale textile production.

213. (C) Gray scale for color change
The Gray Scale for Color Change is an internationally standardized tool used by quality controllers to objectively evaluate the amount of fading in a textile sample after testing. It consists of several pairs of grey chips, representing different levels of contrast. By comparing the tested specimen with these standards, technicians can assign a numerical rating to the fabric's color fastness.

214. (C) Water pollution and harm to aquatic life
The improper disposal of untreated effluent from textile dyeing units is a major cause of environmental degradation. This wastewater often contains high concentrations of synthetic dyes, heavy metals, and toxic chemicals that can severely contaminate local water bodies. These pollutants deplete dissolved oxygen in the water, blocking sunlight and poisoning aquatic organisms, leading to long-term damage to fragile.

215. (A) Occupational clothing / Protective textiles
A bulletproof jacket is a prime example of high-performance protective textiles, also known as Protech. These items are engineered to safeguard individuals in dangerous professional roles, such as military or police work, by using specialized synthetic fibres like aramid. These materials possess exceptional impact resistance and strength-to-weight ratios, ensuring the highest level of safety for the user in professional.

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In the textile manufacturing process, the term grey fabric is used to describe material that has been constructed through weaving or knitting but has not yet undergone any finishing treatments. This raw, unprocessed fabric contains natural impurities and lacks added colour or functional coatings. Finishes are subsequently applied to this base material to transform it into the final textile product.

271. (C) Dyeing colours the entire material uniformly, while printing applies colour locally.
Dyeing and printing are both methods used to add colour to textiles, but they differ in their application. Dyeing involves immersing the material in a dye solution to achieve a uniform, solid shade across the entire surface. Printing is the localized application of colour to create specific patterns, designs, or motifs on certain areas of the fabric surface only.

272. (B) Tie and dye and batik.
Resist-dyeing is a specific category of textile decoration where certain parts of the fabric are protected from the dye to create a pattern. Tie and dye achieves this by binding or knotting sections of the material, while batik uses wax to prevent dye penetration. These techniques allow for the creation of intricate designs by selectively blocking the application of colour.

273. (D) Discharge printing
Discharge printing is an advanced textile coloration technique that works in reverse compared to standard printing methods. It involves using a chemical agent to selectively remove or destroy colour from a fabric that has already been dyed a solid shade. This process creates a design by revealing the lighter base colour or a different colour in the areas where the chemical is applied.

274. (A) Digitized printing
Recent technological advancements have introduced digitized printing to the textile industry. This method allows for complex, high-resolution designs to be transferred directly from a computer file onto the fabric surface. Unlike traditional methods like screen or roller printing, digitized printing offers unparalleled design freedom, enabling the reproduction of intricate details and a wide range of colours with extreme precision.

275. (C) applied by stamping with an inked, carved block.
Block printing is a traditional and artisanal hand-technique used to create patterns on fabric. The process involves carving specific designs into wooden blocks, which are then coated with ink or dye. These blocks are manually stamped onto the textile surface in a repeating sequence. This method is characterized by its manual nature and the unique aesthetic variations it produces.

276. (A) The primary technique used, such as embroidery, printing, or weaving.
India's diverse traditional textiles are systematically classified based on the primary craft technique employed in their creation. This categorization includes major groups such as embroidered, printed, woven, and dyed textiles. While regional origin and motifs are important for specific identification, the fundamental method used to decorate or construct the fabric serves as the primary basis for organizing these traditions.

277. (D) Embroidered textile
Phulkari is a renowned traditional textile from the Punjab region, recognized specifically as an embroidered craft. It is characterized by the use of vibrant silk threads worked onto a base of coarse cotton fabric. The technique typically employs a darning stitch to create intricate geometric motifs. This combination of fibre and stitch work defines Phulkari as a classic example of embroidery.

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278. (B) silk fibre and narrative motifs woven into the pallu.
The identification of a Baluchari saree, a traditional woven textile from West Bengal, relies on several distinct features. These sarees are primarily made from silk fibres. A key identifying characteristic is the presence of intricate narrative motifs woven into the pallu, or the decorative end of the saree. These motifs often depict mythological scenes, providing a unique signature of this craft.

279. (C) They are both identified as examples of dyed or printed crafts.

Kalamkari and Bandhani are both significant traditional Indian textiles that utilize specific coloration methods. Kalamkari involves free-hand drawing and dyeing on cotton fabric, while Bandhani uses a meticulous tie-and-dye technique to create patterns. Despite their different regional origins and specific methods, both are categorized as crafts that rely on the application of dyes or prints to decorate the fabric.

280. (D) considering a combination of factors including technique, fibre, motif, and colour.
To accurately identify a traditional Indian textile and its origin, a multi-faceted analysis is required. Relying on a single factor is often insufficient for precise classification. Instead, experts examine a combination of elements, including the specific technique used, the fibre content, the types of motifs depicted, and the characteristic colour palette. This comprehensive approach ensures a reliable identification of the textile.

281. (A) To verify quality and predict performance.
Textile testing and quality control are essential processes within the industry to ensure standards are met. The primary objective of these procedures is to verify the overall quality of materials and predict how they will perform during actual use. This systematic evaluation helps manufacturers maintain consistency and ensures that the final products meet the expectations and requirements of the consumers.

282. (B) representative of the entire batch.
For textile testing results to be valid and useful, the initial sampling stage must be conducted with precision. It is crucial that the selected sample is truly representative of the entire batch or lot of material being evaluated. This ensures that the data obtained from testing a small portion accurately reflects the characteristics and quality of the total production volume.

283. (B) Shrinkage test
Maintaining the correct size and shape of a garment after laundering is a vital aspect of textile quality. To evaluate this, a shrinkage test is performed to measure the dimensional stability of the fabric. This test determines how much the material contracts or expands after being washed, providing essential information on whether the fabric will remain fit for its purpose.

284. (A) formation of entangled fibre balls on the surface.
In the context of textile testing, pilling refers to a specific surface defect that occurs during the wear and use of a fabric. It is the formation of small, entangled balls of fibres that cling to the material's surface. Assessing a fabric's tendency to pill helps predict its long-term appearance and durability, as excessive pilling can make garments look aged and worn.

285. (C) Its weight and density.
GSM, which stands for Grams per Square Meter, is a fundamental measurement used in the textile industry to evaluate fabric properties. This metric primarily indicates the weight of the fabric for a specific area. By determining the GSM, manufacturers can assess the density of the material, which helps in understanding its potential thickness, durability, and suitability for various end-use applications.

286. (D) They can release harmful substances.
Certain synthetic dyes, particularly those in the azo category, have been banned in many countries due to significant health and environmental concerns. These dyes can break down and release harmful aromatic amines, which are considered toxic. Prohibiting their use is a necessary measure to protect consumers from potential health risks and to mitigate the negative impact on the local ecosystem.

287. (C) produced using sustainable materials and non-toxic processes.
Eco-friendly textiles are defined by their reduced environmental impact throughout their production cycle. These materials are manufactured using sustainable fibres, such as organic cotton or recycled polyester. Additionally, the production process utilizes non-toxic dyes and resource-conserving methods. This approach aims to minimize the ecological footprint of the textile industry while ensuring the safety of workers and consumers during the process.

288. (B) To remove contaminants from wastewater before discharge.

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Textile wet processing, including dyeing and finishing, generates large volumes of contaminated wastewater known as effluent. The primary purpose of effluent treatment is to remove hazardous chemicals, residual dyes, and other pollutants from this water before it is discharged into the environment. This process is essential for preventing water pollution and protecting aquatic ecosystems from the industry's chemical waste products.

289. (D) To certify that a product meets specific environmental standards.
Certification systems like Eco-labels and Eco-marks serve as important tools for consumer transparency in the textile market. These labels function to certify that a specific product has successfully met rigorous environmental criteria throughout its entire lifecycle. This includes sustainable raw material extraction, non-toxic manufacturing, and responsible disposal, helping consumers make informed choices that support environmentally conscious and sustainable industrial practices.

290. (A) Wet processing, such as dyeing.
While all stages of textile production have some environmental impact, the most significant concerns are associated with wet processing. This stage, which includes dyeing, printing, and finishing, requires large amounts of water and chemicals. The resulting wastewater often contains toxic residues that can cause severe pollution if not treated properly. Therefore, wet processing is a primary focus for environmental regulations.

291. (C) They use nanoparticles to create fabrics with enhanced properties.
Nano textiles represent an innovative advancement in material science within the textile industry. Their defining characteristic is the integration of tiny nanoparticles into the fibres or as a surface coating. This technology allows for the creation of fabrics with significantly enhanced functional properties, such as UV protection or stain resistance, while maintaining the original feel and breathability of the textile material.

292. (A) specific functional requirements.
Technical textiles are a specialized category of materials engineered primarily for their performance rather than their visual appeal. The main focus during their design and manufacture is on meeting specific functional requirements. These applications range from medical and automotive uses to protective clothing for hazardous occupations. In these cases, the technical utility and safety of the material are the most critical factors.

293. (D) Zero-waste designing
Zero-waste designing is a sustainable production method that focuses on the efficient use of textile materials. This approach involves optimizing the pattern-making process so that all pieces fit together perfectly on the fabric. By carefully arranging these patterns, manufacturers aim to eliminate any fabric waste during the cutting stage, significantly reducing the amount of scrap material that would otherwise be discarded.

294. (B) Recycling processes waste into new fibres, while upcycling creates higher-value products from waste.
Recycling and upcycling are both sustainable practices but involve different processes. Recycling focuses on the mechanical or chemical reprocessing of textile waste to create new fibres and fabrics. Upcycling, however, involves transforming waste materials or unwanted products into new items that possess higher quality or value than the original. Both methods contribute to a circular economy by extending the material's lifespan.

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295. (C) fire-resistant suit for a firefighter.
Occupational clothing is a branch of technical textiles designed to protect workers in specific, often hazardous, environments. A fire-resistant suit used by a firefighter is a clear example of this category. These garments are engineered with specialized materials and finishes to provide safety against extreme heat and flames, fulfilling a vital functional requirement that is far more important than aesthetics.

296. (D) Descriptive research.
Within the field of textile research, different methodologies are used depending on the study's goals. Descriptive research is a fundamental type that aims to provide an accurate account

(B) 1, 2, and 5 only
(C) 3, 4, and 5 only
(D) 1, 2, 3, 4, and 5

32. The tactile quality of a fabric's surface is which element of design?
(A) Line
(B) Texture
(C) Color
(D) Form

33. Which group of consumers are typically the first to adopt a new fashion, often at a high price?
(A) Fashion followers
(B) Fashion innovators
(C) Late majority
(D) Laggards

34. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : The process of dart manipulation allows a flat pattern to be altered to create various three-dimensional shapes and styles.
Reason (R) : All darts must terminate at the bust point to ensure a proper fit.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

35. The term 'seam allowance' refers to:
(A) The specific total number of stitches per inch along a completed seam.
(B) A highly specialized industrial machine used primarily for finishing raw seams.
(C) The area between the stitching line and the cut edge of the fabric.
(D) The final visible line of decorative stitching on the garment's exterior surface.

36. Dimensional stability is a quality parameter that measures a fabric's ability to:
(A) Successfully resist the formation of pilling and surface abrasion over time.
(B) Hold its original color intensity without any fading during regular use.
(C) Stretch significantly and recover fully to its original physical form.
(D) Retain its original size and shape after washing and use.

37. What does a care label symbol of a circle by itself typically represent?
(A) Washing instructions
(B) Bleaching instructions
(C) Dry-cleaning instructions
(D) Drying instructions

38. Which is the most important consideration for selecting clothing for the elderly?
(A) Following the latest youth fashion trends
(B) Ease of dressing and undressing, and comfort
(C) Having a wide variety of bright colors
(D) Choosing delicate and high-maintenance fabrics

39. Research that involves manipulating an independent variable to observe its effect on a dependent variable is known as:
(A) Descriptive research
(B) Historical research
(C) Correlational research
(D) Experimental research

40. An 'endomorph' figure type is generally characterized as:
(A) Soft and rounded with a shorter stature
(B) Tall and slender with long limbs
(C) Muscular and well-proportioned
(D) Having broad shoulders and a narrow waist

41. Which of the following is NOT a primary part of a standard lockstitch sewing machine?
(A) Needle bar
(B) Take-up lever
(C) Looper
(D) Feed dog

42. In apparel design, what does 'harmony' refer to?
(A) The pleasing combination of all elements and principles of design.
(B) The strategic creation of a singular focal point within a design.
(C) The consistent repetition of specific lines, shapes, and textures.
(D) The visual illusion of increased body height

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CHAPTER 04
Apparel Designing

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1. What is the scientific study of the measurements and proportions of the human body called?
(A) Ergonomics
(B) Anthropometry
(C) Kinesiology
(D) Biomechanics

2. Which part of a sewing machine holds the fabric in place against the feed dog during sewing?
(A) Presser foot
(B) Needle clamp
(C) Take-up lever
(D) Bobbin case

3. Which of the following statements correctly describes the design principle of 'rhythm'?
(A) It is the equal distribution of visual weight in a design.
(B) It is the focal point or center of interest in a garment.
(C) It is the feeling of movement created by the repetition of design elements.
(D) It is the relationship between the size of different parts of a garment to each other and to the whole.

4. A style that remains in fashion for an extended period of time is known as a:
(A) Fad
(B) Trend
(C) Cycle
(D) Classic

5. The pattern making method that involves creating a pattern directly on a three-dimensional dress form using fabric is called:
(A) Drafting
(B) Flat pattern making
(C) Draping
(D) Grading

6. Which type of seam is formed by overlapping two pieces of fabric and stitching through both layers, commonly seen on jeans?
(A) Plain seam
(B) Lapped seam
(C) French seam
(D) Bound seam

7. AQL in apparel quality control stands for:
(A) Assured Quality Level
(B) Average Quality Level
(C) Accredited Quality Logic
(D) Acceptable Quality Limit

8. Which of the following is a key principle of washing clothes effectively?
(A) Combining mechanical action, chemical action, and temperature
(B) Using the maximum possible temperature for all fabrics
(C) Avoiding the use of any laundry agents to protect fabric
(D) Washing all colored garments together to save water

9. When selecting clothing for adolescents, which factor is often of primary importance to the wearer?
(A) Durability and ease of care
(B) Provision for growth
(C) Conformity to peer group styles and trends
(D) Fire retardant properties

10. A tentative statement about the relationship between two or more variables that a researcher seeks to test is known as a:
(A) Hypothesis
(B) Theory
(C) Conclusion
(D) Scope

11. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Taking accurate body measurements is a critical first step for creating

73. The initial sample of a garment made by a factory for the designer's approval before mass production begins is called a:
(A) Muslin
(B) Production sample
(C) Prototype or fit sample
(D) Sloper

74. Seam puckering is a garment defect most often caused by:
(A) Incorrect thread tension or mismatched fabric layers during sewing.
(B) Using fabric materials that are significantly too thick for the needle.
(C) Using a cutting blade that has become dull after repeated use.
(D) Selecting a thread color that does not perfectly match the fabric color.

75. A care label with an image of a washtub and a hand in it means the garment should be:
(A) Machine washed on a gentle cycle
(B) Washed at a high temperature
(C) Not washed in water
(D) Hand washed only

76. A key consideration when selecting fabrics for children's play clothes is:
(A) High luster
(B) Durability and washability
(C) Delicate weave
(D) Formal appearance

77. A research study that describes the characteristics of a population or phenomenon, such as a survey of current fashion preferences, is an example of:
(A) Experimental research
(B) Causal research
(C) Descriptive research
(D) Historical research

78. Which measurement is taken from the prominent bone at the back of the neck, down the spine to the waist level?
(A) Back width
(B) Shoulder length
(C) Full length
(D) Center back length

79. A 'walking foot' is a sewing machine attachment designed to:
(A) Help feed multiple or bulky layers of fabric evenly.
(B) Allow the operator to sew perfect circles manually.
(C) Gather lightweight fabric automatically during the stitch.
(D) Create intricate decorative stitches on the fabric surface.

80. Consider the following design terms:
1. Shape
2. Proportion
3. Texture
4. Emphasis
5. Balance

Which of the above are considered 'principles' of design?
(A) 1, 2, and 3 only
(B) 2, 4, and 5 only
(C) 1, 3, and 5 only
(D) All of the above

81. According to the theory of fashion adoption, individuals who are the very last to adopt a fashion trend are called:
(A) Early adopters
(B) Laggards
(C) The early majority
(D) The late majority

82. In pattern alteration, what is the standard method for lengthening a pattern piece like a sleeve or a pant leg?
(A) Slashing the pattern between key points and spreading the pieces apart.
(B) Adding the necessary extra length only at the garment's bottom hemline.
(C) Forcefully stretching the paper pattern before cutting the final fabric.
(D) Completely redrafting the entire pattern piece from the very beginning.

83. The process of cutting all the fabric pieces for a specific number of garments and grouping them together for the sewing line is known as:
(A) Spreading
(B) Grading
(C) Bundling
(D) Fusing

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21. The 'feed dog' on a sewing machine has the primary function of:
(A) Piercing the fabric with the needle
(B) Forming the lower part of the stitch
(C) Moving the fabric forward under the needle
(D) Controlling the thread tension

22. Read the given statements and select the correct option.
Statement I : Proportion in design refers to the relationship in size of parts to each other and to the whole.
Statement II : The principle of emphasis suggests that a garment should have multiple, competing focal points to be interesting.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

23. The 'Trickle-Across' or 'Mass-Market' theory of fashion diffusion proposes that:
(A) Fashion moves from the upper class to the lower class.
(B) Fashion moves from the lower class to the upper class.
(C) Fashion trends are initiated randomly across all classes.
(D) Fashion moves horizontally within similar social strata.

24. The technique of converting a single dart into multiple smaller darts or into gathers is known as:
(A) Dart manipulation
(B) Pattern grading
(C) Dart equalization
(D) Pattern alteration

25. Arrange the following major stages of apparel manufacturing from fabric to finished garment in the correct chronological order:
1. Cutting
2. Spreading
3. Sewing
4. Finishing and Pressing
(A) 1, 2, 3, 4
(B) 2, 1, 3, 4
(C) 2, 3, 1, 4
(D) 1, 3, 2, 4

26. A fabric's tendency to form small balls of fiber on its surface due to rubbing is known as:
(A) Pilling
(B) Shrinkage
(C) Crocking
(D) Bleeding

27. A care label symbol showing a triangle with a cross over it indicates that the garment should:
(A) Not be ironed
(B) Not be washed
(C) Not be dry-cleaned
(D) Not be bleached

28. Which type of fabric would be most appropriate for active sportswear due to its moisture-wicking properties?
(A) 100% Cotton
(B) Synthetic microfibers like polyester
(C) Heavy wool
(D) Silk charmeuse

29. The null hypothesis (H0) in research is a statement that:
(A) The researcher hopes to prove true.
(B) Must be true if the alternative hypothesis is false.
(C) There is no statistically significant effect or relationship.
(D) Is formulated after the data has been analyzed.

30. Which of the following is a key reason for the need for body measurements in apparel?
(A) To determine the color of the garment
(B) To forecast fashion trends
(C) To calculate the cost of laundry
(D) To ensure proper fit and comfort

31. Consider the following tools used in the apparel industry:
1. Measuring tape
2. L-square or Fashion ruler
3. Tracing wheel
4. Shears
5. Sewing machine
Which of the above are considered essential tools for pattern making?
(A) 1, 2, 3, and 4 only

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of the characteristics of a specific population or phenomenon. For example, documenting the physical properties of a newly synthesized fibre is a descriptive task that establishes a clear understanding of the subject being studied.

297. (A) Using numerical data and statistical analysis to test hypotheses.
Quantitative research in the textile discipline is characterized by its focus on objective measurement. This approach utilizes numerical data and statistical analysis to test specific hypotheses and identify relationships between variables. An example would be measuring the exact impact of a chemical finish on the tensile strength of a fabric, allowing for precise, data-driven conclusions to be drawn from the study.

298. (B) Historical research.
Historical research involves the systematic collection and evaluation of data related to past events to understand their influence on the present. A study focused on the evolution of the block printing industry in India since the 18th century would fall into this category. This type of research helps scholars trace the development of techniques, motifs, and industrial practices over time.

299. (B) Qualitative research deals with non-numerical data for deep understanding, while quantitative research uses numerical data.
The primary distinction between qualitative and quantitative research lies in the type of data collected and the depth of analysis. Quantitative research relies on numerical data to find statistical patterns. Conversely, qualitative research utilizes non-numerical data, such as interviews or detailed observations, to gain a deep and contextual understanding of a phenomenon, such as the cultural or social significance of a textile.

300. (A) action research.
Action research is a practical approach focused on finding immediate solutions to specific problems within a particular context. When a manager initiates a study to address high defect rates on a production line, they are conducting action research. This type of study is designed to improve practices and solve operational issues directly, rather than solely contributing to theoretical or historical knowledge.

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or garment width.

43. Match the items in List I with the items in List II.
List I: (Theory)
P. Trickle-Down Theory
Q. Trickle-Up Theory
R. Trickle-Across Theory
S. Collective Selection Theory
List II: (Concept)
1. Fashions begin in lower-class or subcultures and spread upward.
2. Fashions move horizontally among groups on similar social levels.
3. Fashions descend from the upper class to the masses.
4. Fashion is a form of social expression chosen by many people with similar tastes.
Code:
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-1, R-2, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-1, R-4, S-3

44. The process of making a pattern larger or smaller to fit different body sizes is called:
(A) Alteration
(B) Grading
(C) Drafting
(D) Manipulation

45. What is the primary purpose of a 'yoke' in a garment like a shirt or a skirt?
(A) To provide a decorative or structural trim used primarily at the bottom hemline.
(B) To create an internal fabric channel designed for the insertion of a drawstring.
(C) To allow the garment to fit the curve of the body, often at the shoulders or hips.
(D) To clean and finish the raw edge of a specific neckline or garment armhole.

46. Fabric defects like thin places, thick places, or slubs occurring in a horizontal or filling-wise direction create a defect known as:
(A) A nep
(B) A float
(C) A hole
(D) A barre

47. In the context of laundering, what is the role of a 'surfactant' found in detergents?
(A) To lift and suspend dirt and oil away from the fabric
(B) To whiten and brighten clothes
(C) To soften the water by binding minerals
(D) To add a pleasant fragrance to the laundry

48. When selecting fabrics for workwear in a physically demanding job, which property is most essential?
(A) Sheerness and delicacy
(B) Durability and tear strength
(C) Luster and drape
(D) Luxurious texture

49. What is the primary difference between a 'vertical' and a 'circumference' body measurement?
(A) Vertical is taken up-and-down; circumference is taken across.
(B) Vertical is taken perpendicular to the floor; circumference is taken around a body part.
(C) Vertical is taken from head-to-toe; circumference is taken side-to-side.
(D) Vertical is taken parallel to the floor; circumference is taken around the body.

50. A serger or overlock machine is primarily used for:
(A) Sewing seams, finishing edges, and trimming excess fabric simultaneously.
(B) Creating highly intricate decorative embroidery on the fabric surface.
(C) Manually attaching buttons and creating precise, standard buttonholes.
(D) Quilting together multiple distinct layers of fabric in a single pass.

51. Consider the following terms used in design:
1. Balance
2. Line
3. Rhythm
4. Color
Which of the above are considered 'elements' of design?
(A) 1 and 3 only
(B) 2 and 4 only
(C) 1, 2 and 3 only
(D) 2, 3 and 4 only

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custom-fit garments.
Reason (R) : Inaccurate measurements directly lead to poor fit and require significant garment alterations.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

12. Which sewing machine attachment is specifically designed to create a neat and consistent finish on a raw fabric edge, preventing it from fraying?
(A) Zipper foot
(B) Overcasting foot
(C) Buttonhole foot
(D) Darning foot

13. The use of vertical stripes on a dress to create an illusion of height is an application of which element of design?
(A) Texture
(B) Color
(C) Line
(D) Shape

14. Consider the following definitions related to fashion:
1. Style: A characteristic or distinctive mode of presentation or conceptualization in a particular field.
2. Fashion: A style that is accepted and used by the majority of a group at any one time.
3. Fad: A short-lived fashion that is adopted by a relatively small group of people.
4. Classic: A style that continues to be accepted for an extended period.

Which of the above definitions are correct?
(A) 1 and 2 only
(B) 1, 3 and 4 only
(C) 2 and 3 only
(D) 1, 2, 3 and 4

15. What is the main purpose of a 'sloper' or 'block pattern' in flat pattern making?
(A) It is a basic, close-fitting pattern used as a template for creating new designs.
(B) It is the final fashion pattern with all design details included.
(C) It is a pattern piece used exclusively for draping on a dress form.
(D) It is a multi-sized pattern used for mass production grading.

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16. What is the process of arranging pattern pieces on the fabric in the most efficient way to minimize fabric waste called?
(A) Spreading
(B) Marker making
(C) Bundling
(D) Fusing

17. Which of the following is considered a garment defect rather than a fabric defect?
(A) Nep
(B) Skipped stitches
(C) Slub
(D) Barre

18. Match the items in List I with the items in List II.
List I: (Laundry Agent)
P. Detergent
Q. Chlorine Bleach
R. Fabric Softener
S. Starch
List II: (Function)
1. Adds stiffness and body to the fabric
2. Reduces static cling and imparts softness
3. Removes soil and stains from fabric
4. Whitens whites and removes stubborn stains on cotton

Code:
(A) P-1, Q-2, R-4, S-3
(B) P-3, Q-4, R-2, S-1
(C) P-4, Q-3, R-1, S-2
(D) P-3, Q-2, R-4, S-1

19. For which age group is flame-retardant fabric a crucial safety consideration in sleepwear?
(A) Adults
(B) Adolescents
(C) Infants and children
(D) Elderly

20. What is the first step in the procedure for taking body measurements?
(A) Selecting the correct size measuring tape
(B) Deciding which garments will be made
(C) Recording the measurements on a chart
(D) Having the subject stand in a natural, erect

62. The process of researching and predicting future trends in colors, fabrics, and styles is known as:
(A) Fashion adoption
(B) Fashion merchandising
(C) Fashion cycling
(D) Fashion forecasting

63. Arrange the following stages of the fashion cycle in their correct chronological sequence:
1. Peak
2. Rise
3. Introduction
4. Decline
5. Obsolescence

(A) 3, 2, 1, 4, 5
(B) 3, 1, 2, 4, 5
(C) 1, 2, 3, 4, 5
(D) 2, 3, 1, 5, 4

64. A 'French seam' is a seam finishing technique best suited for:
(A) Heavy, bulky fabrics like denim.
(B) Sheer, lightweight fabrics where raw edges would be visible.
(C) Knitted and stretch fabrics.
(D) Leather and vinyl.

65. A garment's color rubbing off onto another surface is a quality defect known as:
(A) Pilling
(B) Crocking
(C) Bleeding
(D) Fading

66. What is the primary purpose of storing wool garments with cedar blocks or lavender sachets?
(A) To repel moths and other pests
(B) To keep them from wrinkling
(C) To add a pleasant fragrance
(D) To prevent the color from fading

67. Which of these is an example of an 'end use' for a fabric?
(A) Weaving
(B) Dyeing
(C) Upholstery
(D) Spinning

68. Which of the following pairs correctly matches the figure type with its description?
(A) Ectomorph - Short and stocky build
(B) Mesomorph - Athletic and muscular build
(C) Endomorph - Tall and lean build
(D) Apple shape - Hips significantly wider than the bust and shoulders

69. Which specialized machine creates a very secure, stretchable, and flat seam by interlocking multiple threads, often used for athletic wear hems?
(A) Lockstitch machine
(B) Buttonhole machine
(C) Coverstitch machine
(D) Bartack machine

70. The principle of design that relates to the size of all parts of a design to each other and to the whole garment is:
(A) Balance
(B) Proportion
(C) Rhythm
(D) Emphasis

71. All of the following are factors that affect and accelerate fashion change EXCEPT:
(A) Increased leisure time
(B) Higher levels of education
(C) Technological advancements
(D) Widespread economic depression

72. Match the items in List I with the items in List II.
List I: (Term)
P. Grainline
Q. Notch
R. Seam allowance
S. Dart
List II: (Description)
1. A small mark on a pattern used to match pieces together accurately.
2. A wedge-shaped fold used to give a garment three-dimensional shape.
3. An arrow indicating the direction a pattern piece should be placed on the fabric.
4. The area between the stitching line and the raw edge of the fabric.

Code:
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-4, S-2
(C) P-3, Q-2, R-1, S-4
(D) P-4, Q-1, R-2, S-3

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52. The obsolescence stage of the fashion cycle is characterized by:
(A) A rapid increase in consumer sales and overall popularity.
(B) The style being at its absolute height of commercial popularity.
(C) The style being worn almost exclusively by early fashion innovators.
(D) A steep decline in popularity and the style being rejected by most consumers.

53. 'Truing' a pattern in pattern making refers to the process of:
(A) Adding seam allowances to all edges.
(B) Cutting the pattern out of paper.
(C) Perfecting and blending seam lines and curves after an alteration.
(D) Transferring markings onto the fabric.

54. The term 'placket' in a garment refers to:
(A) The band of fabric at the bottom of a sleeve, the cuff.
(B) An opening or slit in a garment, often used for closures like buttons or zippers.
(C) A shaped piece of fabric at the back of a shirt, across the shoulders.
(D) A decorative fold of fabric stitched down.

55. Read the given statements and select the correct option.
Statement I : Quality standards in apparel manufacturing are predetermined levels of excellence that a garment is expected to meet.
Statement II : Garment specifications provide detailed instructions on materials, measurements, and construction methods.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

56. An oxygen-based bleach is generally considered:
(A) A 'color-safe' bleach suitable for most washable fabrics.
(B) The strongest type of bleach, suitable only for white cotton.
(C) An agent used for stiffening fabrics like starch.
(D) A type of fabric softener.

57. The need for clothing that allows for a large range of motion is most critical for:
(A) Infants
(B) Office workers
(C) Toddlers and young children
(D) Elderly individuals with limited mobility

58. In research, what does the 'scope' of a study define?
(A) The boundaries and extent of the research, including its limitations.
(B) The specific individual variables currently being investigated in depth.
(C) The detailed statistical methods used for the final data analysis.
(D) The definitive final conclusions drawn from the observed research results.

59. Which measurement is essential for determining the fit of trousers and skirts around the waistline?
(A) Bust circumference
(B) Hip circumference
(C) Crotch length
(D) Waist circumference

60. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Industrial sewing machines like the lockstitch and chainstitch machines are designed for high speed and durability in mass production.
Reason (R) : These machines are typically designed to perform a single, specialized function very efficiently.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

61. What is the most appropriate description of a 'silhouette' in apparel design?
(A) The internal construction and seams of a garment.
(B) The decorative details added to a garment's surface.
(C) The overall outline or shape of a garment.
(D) The texture and feel of the fabric used.

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84. 'Colorfastness to washing' is a quality test that determines:
(A) How much a fabric will shrink when washed
(B) The strength of the fabric's fibers
(C) The fabric's resistance to abrasion
(D) Whether the fabric's color will bleed or fade during laundering

85. A care symbol of an iron with a cross through it means:
(A) Iron on low heat
(B) Steam iron only
(C) Do not iron
(D) Iron on high heat

86. When selecting fabric for formal evening wear, which property is often highly desired?
(A) High absorbency
(B) Good drape and luster
(C) Excellent insulation
(D) Resistance to pilling

87. Which of the following is an example of a null hypothesis for a study on apparel?
(A) There is a significant difference in the durability of cotton and polyester t-shirts.
(B) Polyester t-shirts are fundamentally more durable than standard cotton t-shirts.
(C) Average consumers prefer cotton t-shirts over synthetic polyester t-shirts.
(D) There is no significant difference in the durability of cotton and polyester t-shirts.

88. What is the main anthropometric reason for having different apparel blocks for men and women?
(A) Differences in typical body proportions and shapes, like bust and hip ratios.
(B) General differences in average height observed between the two genders.
(C) Differences in skin sensitivity and fabric weight preferences for clothing.
(D) Differences in color preference and aesthetic style choices for garments.

89. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Fashion illustrations like croquis often feature elongated figures that are not anatomically correct.
Reason (R) : The primary purpose of a fashion illustration is to showcase the garment's design, drape, and mood, rather than to serve as a technical diagram.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

90. The concept of 'planned obsolescence' in the fashion industry refers to:
(A) Intentionally designing products that will go out of style or wear out quickly.
(B) Designing garments to be as durable and long-lasting as physically possible.
(C) Creating classic styles that are intended to never go out of fashion.
(D) Using only sustainable and fully recyclable materials during garment production.

91. A 'pivot' method in flat pattern making is used for:
(A) Grading a pattern to a larger size
(B) Adding seam allowance to a pattern piece
(C) Shortening a sleeve pattern
(D) Moving a dart from one position to another without cutting the pattern

92. The term 'interfacing' in garment manufacturing refers to:
(A) The main, visible outer fabric used for the majority of the garment.
(B) A layer of material fused or sewn to specific areas to add support or stability.
(C) The specialized fabric used specifically for the internal lining of a garment.
(D) A purely decorative trim or embellishment sewn onto the garment's surface.

93. A continuous row of missed stitches in a seam is a defect known as:
(A) Seam slippage
(B) Broken stitches
(C) Skipped stitches
(D) Seam grin

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135. Research that synthesizes information from previous studies to draw a new conclusion is called:
(A) Primary research
(B) A literature review or meta-analysis
(C) An experiment
(D) Field research

136. The 'crotch depth' or 'rise' measurement is crucial for fitting which type of garment?
(A) Shirts
(B) Skirts
(C) Trousers and shorts
(D) Dresses

137. Which of the following is an example of an advancement in sewing machine attachments?
(A) A basic presser foot
(B) A standard needle
(C) A programmable embroidery unit
(D) A manual hand wheel

138. Read the given statements and select the correct option.
Statement I : Warm colors like red, orange, and yellow tend to advance and can make an object appear larger.
Statement II : Cool colors like blue, green, and violet tend to recede and can make an object appear smaller.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

139. A 'technical flat' or 'flat sketch' in apparel design is:
(A) A stylized, artistic drawing of a model wearing a specific garment.
(B) A precise, two-dimensional line drawing showing construction details.
(C) A realistic, three-dimensional digital rendering of a designer garment.
(D) The final paper pattern used for cutting the fabric of a garment.

140. Which pattern making technique would be most suitable for creating a complex, asymmetrical, and fluid design?
(A) Drafting from measurements
(B) Draping on a dress form
(C) Using a pre-made commercial pattern
(D) Grading an existing block pattern

141. Arrange the following processes in apparel quality management in the correct logical order:
1. Final garment inspection
2. Raw material (fabric) inspection
3. In-process (sewing line) quality checks
4. Setting quality standards and specifications
(A) 4, 2, 3, 1
(B) 1, 2, 3, 4
(C) 2, 4, 3, 1
(D) 4, 3, 2, 1

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142. A hole or break in the fabric structure caused by a sharp point is a defect known as:
(A) A slub
(B) A stain
(C) A snag or tear
(D) A barre mark

143. Which of these is a natural laundry agent that can act as a mild bleach, whitener, and deodorizer?
(A) Petroleum distillates
(B) Sodium hypochlorite
(C) Sunlight (UV rays)
(D) Formaldehyde

144. Adaptive clothing is specifically designed for:
(A) Individuals with physical disabilities, for ease of dressing.
(B) High-performance athletes.
(C) People working in extreme weather conditions.
(D) Formal black-tie events.

145. Which of the following is a parenthesis links the research scope term to its definition?
(A) Limitations - Aspects of the study that the researcher cannot control.
(B) Delimitations - Unforeseen challenges that arise during the study.
(C) Variables - The final, unchangeable conclusions of the research.
(D) Population - The individual person conducting the research.

146. A 'figure type' in the context of apparel design refers to:
(A) The overall body shape and proportions of

(A) Applying starch
(B) Using fabric softener
(C) Steaming
(D) Soaking in bleach

105. For which of the following end uses would a fabric with high water repellency be most suitable?
(A) Bath towels
(B) Baby diapers
(C) Raincoats
(D) Summer blouses

106. A person with a 'pear' or 'triangle' figure shape typically has:
(A) A larger bust and shoulder measurement compared to the hips.
(B) A straight body line with little waist definition.
(C) Wider hips and thighs compared to the bust and shoulder area.
(D) A balanced bust and hip measurement with a narrow waist.

107. Which attachment is used on a sewing machine to create gathers or ruffles in fabric?
(A) A zipper foot
(B) A ruffler or gathering foot
(C) A blind hem foot
(D) A quarter-inch foot

108. Consider the following applications of design principles in apparel:
1. Symmetrical balance creates a formal and static look.
2. Asymmetrical balance creates a dynamic and informal look.
3. Gradation in size or color can create a sense of rhythm.
4. Placing a contrasting color at the waistline creates a focal point (emphasis).

Which of the above statements are correct?
(A) 1 and 2 only
(B) 3 and 4 only
(C) 1, 2 and 3 only
(D) 1, 2, 3 and 4

109. Which factor is a major influence on fashion and often dictates the types of fabrics and silhouettes that are practical and desirable?
(A) Climate
(B) Political stability
(C) Historical events
(D) Literary trends

110. A basic bodice pattern with darts for fitting is also known as a:
(A) Torso sloper
(B) Sleeve block
(C) Skirt sloper
(D) Trouser block

111. What does the term 'fabric spreading' refer to in the context of mass production?
(A) The process of selling fabric to different retailers.
(B) The unwinding and laying of multiple plies of fabric before cutting.
(C) The natural tendency of a fabric to stretch out of its original shape.
(D) The direct application of colored prints onto a fabric's surface.

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112. A quality specification sheet for a t-shirt would likely include all of the following EXCEPT:
(A) Stitches per inch (SPI)
(B) Fabric weight in GSM (Grams per Square Meter)
(C) The name of the end consumer
(D) Garment measurements and tolerance

113. What is the primary danger of using chlorine bleach on silk, wool, or spandex fabrics?
(A) It will make the colors brighter.
(B) It will damage or dissolve the protein/synthetic fibers.
(C) It will cause the fabrics to shrink excessively.
(D) It will not be effective in removing stains.

114. When selecting clothing for a job interview, the primary goal is to choose an outfit that is:
(A) Highly fashionable and trendy
(B) Comfortable for lounging
(C) Professional, appropriate for the industry, and neat
(D) Brightly colored to stand out

115. A research method that focuses on an in-depth, detailed examination of a single individual, group, or event is called a:
(A) Case study
(B) Survey

157. A buttonhole attachment on a sewing machine is an example of a tool that:
(A) Automates a complex and repetitive sewing task.
(B) Is only used for heavy-duty industrial sewing.
(C) Eliminates the need for thread.
(D) Is used for cutting fabric patterns.

158. Consider the following statements regarding the elements and principles of design:
1. Line is an element; balance is a principle.
2. Color is an element; proportion is a principle.
3. Rhythm is an element; texture is a principle.
4. Emphasis is a principle; shape is an element.
Which of the above statements are correct?
(A) 1, 2, and 3 only
(B) 1, 2, and 4 only
(C) 2 and 3 only
(D) 1 and 4 only

159. The decline in the wearing of formal hats by men in the mid-20th century is an example of a long-term shift in fashion influenced by:
(A) A single runway show
(B) The invention of a new fiber
(C) Changing social customs and lifestyles
(D) A short-lived economic boom

160. What is the main difference between pattern alteration and pattern grading?
(A) Alteration corrects fit for an individual, while grading creates a range of standard sizes.
(B) Alteration changes the size, while grading changes the overall garment design style.
(C) Alteration is performed on paper, while grading is done directly onto the fabric.
(D) Alteration is for woven fabrics, while grading is used primarily for knitted goods.

161. A 'mock flat-felled seam' is used to:
(A) Create the appearance of a durable flat-felled seam with an easier construction method.
(B) Join very sheer and delicate fabrics without leaving any visible external stitches.
(C) Attach decorative lace or embellishments to a finished garment hem or edge.
(D) Create a highly stretchable and durable seam for high-performance active swimwear.

162. Match the items in List I with the items in List II.
List I: (Defect)
P. Seam Puckering
Q. Broken Stitches
R. Color Bleeding
S. Pilling
List II: (Cause)
1. Low-quality dye or improper fixation
2. Abrasion and wear on low-twist staple fiber fabrics
3. Incorrect sewing tension or blunt needle
4. Needle being too large, dull, or thread breakage
Code:
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-1, S-2
(C) P-4, Q-3, R-2, S-1
(D) P-3, Q-1, R-4, S-2

163. The primary reason for properly sorting laundry before washing is to:
(A) Save significant amounts of time during the final tumble drying cycle.
(B) Prevent color transfer and wash fabrics with similar care requirements.
(C) Ensure that all of the loaded garments are equally and uniformly dirty.
(D) Make the interior of the washing machine drum look visually organized.

164. In selecting fabrics for different end uses, breathability is a key factor for:
(A) Rainwear
(B) Upholstery
(C) Summer clothing
(D) Ski jackets

165. The process of hypothesis testing is a core component of which type of reasoning?
(A) Inductive reasoning
(B) Deductive reasoning and statistical inference
(C) Creative thinking
(D) Historical interpretation

166. A 'pear' shaped figure is characterized by which anthropometric feature?
(A) Bust is wider than the hips

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(D) Water repellency and heavy weight

125. The final step in hypothesis testing involves:
(A) Formulating the null hypothesis.
(B) Collecting the data.
(C) Performing statistical calculations.
(D) Making a decision to either reject or fail to reject the null hypothesis.

126. Which of the following is NOT a standard body measurement but a calculation derived from other measurements?
(A) Bust circumference
(B) Waist-to-hip ratio
(C) Sleeve length
(D) Inseam length

127. What is the advancement in modern sewing machines that allows the needle to be programmed to stop in either the 'up' or 'down' position?
(A) Automatic thread cutter
(B) Needle positioner
(C) Speed control slider
(D) Drop-in bobbin system

128. A monochromatic color scheme in apparel design involves using:
(A) Colors that are positioned directly opposite each other on the color wheel.
(B) Colors that are positioned immediately next to each other on the wheel.
(C) Different tints, tones, and shades of a single color.
(D) A visual combination consisting only of neutral black, white, and grey.

129. Consider the following factors related to fashion:
1. Economic conditions
2. Social changes and lifestyles
3. Political events
4. Technological advancements
5. A specific designer's preference

Which of the above factors have a broad impact on fashion cycles and trends?
(A) 1 and 5 only
(B) 1, 2, 3, and 4 only
(C) 2 and 4 only
(D) All of the above

130. A 'godet' is a piece of fabric inserted into a garment to:
(A) Reinforce a mistake in garment construction.
(B) Add extra fullness and flare, typically in a skirt or sleeve.
(C) Create a button closure.
(D) Finish the raw edge of a neckline.

131. In the context of apparel manufacturing, what is 'fusing'?
(A) The process of sewing two pieces of fabric together.
(B) The process of attaching interlining to a fabric piece using heat and pressure.
(C) The process of dyeing garments after they are assembled.
(D) The process of inspecting finished garments.

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132. 'Seam slippage' is a fabric/seam defect that is most likely to occur in:
(A) Tightly woven fabrics with a high thread count.
(B) Fabrics with a loose weave or smooth, filament yarns.
(C) Non-woven fabrics like felt.
(D) Heavy-duty canvas fabrics.

133. What is the recommended first step before washing a new, brightly colored garment for the first time?
(A) Wash it with white clothes to immediately check for dye transfer.
(B) Iron the garment on high heat to permanently set the fabric dye.
(C) Test for colorfastness on an inconspicuous area or wash separately.
(D) Apply a heavy stain remover over the entire surface of the garment.

134. A person selecting clothing for hiking in a cold, wet environment should prioritize fabrics that are:
(A) Lightweight, sheer, and primarily used for decorative purposes.
(B) Insulating, moisture-wicking, and water-resistant.
(C) Highly absorbent and moisture-retaining like standard cotton.
(D) Fundamentally stiff and formal in appearance like structured linen.

rulers (e.g., L-square, French curve)
(D) A piece of fashion fabric

177. A twin needle is a sewing machine advancement that allows one to:
(A) Sew with two different colors of thread at the same time for decoration.
(B) Create two parallel rows of stitching on the top side of the fabric.
(C) Sew through extremely thick materials like leather.
(D) Automatically wind the bobbin while sewing.

178. A 'bias cut' garment is one where the fabric is cut:
(A) Parallel to the selvage edge.
(B) Perpendicular to the selvage edge.
(C) At a 45-degree angle to the selvage edge.
(D) In a random direction to save fabric.

179. A fashion forecasting service provides information on all of the following EXCEPT:
(A) Key color palettes for upcoming seasons.
(B) Emerging silhouettes and styles.
(C) Important new fabric textures and materials.
(D) Guaranteed sales figures for specific designs.

180. The point of a dart, which points towards the fullest part of a body curve, is called the:
(A) Dart leg
(B) Dart intake
(C) Dart apex
(D) Dart base

181. Consider the following stages of apparel manufacturing:
1. Pattern making
2. Marker making
3. Fabric spreading
4. Fabric cutting
5. Garment pressing

Which of the above are part of the process before sewing begins?
(A) 1, 2, and 5 only
(B) 3, 4, and 5 only
(C) 1, 2, 3, and 4 only
(D) All of the above

182. Bowing and skewing are what type of apparel-related defects?
(A) Garment construction defects
(B) Fabric grainline defects
(C) Color fading defects
(D) Seam strength defects

183. Which of the following is NOT a principle of clothing care?
(A) Read and follow care labels.
(B) Sort clothes before washing.
(C) Use the hottest water possible for all fabric types.
(D) Treat stains promptly.

184. The selection of clothing for different age groups is primarily dictated by:
(A) Price point
(B) Brand loyalty
(C) Physiological needs, psychological needs, and lifestyle activities
(D) The availability of certain colors

185. If a study can be replicated by another researcher and yield similar results, the study is said to have high:
(A) Validity
(B) Reliability
(C) Scope
(D) Significance

186. Which of the following best describes the 'procedure' for taking body measurements?
(A) A systematic and standardized method for taking specific measurements.
(B) A purely random process of measuring various different body parts.
(C) The act of estimating general garment sizes without using a tape.
(D) The selection of a standard commercial pattern size for the individual.

187. What advancement allows a modern sewing machine to automatically adjust thread tension based on fabric thickness?
(A) A manual tension dial
(B) An automatic tension system
(C) A drop-in bobbin
(D) A free arm

188. A technical drawing of a garment laid flat, showing all seams, topstitching, and hardware is called a:

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an individual.
(B) The numerical size of the garment.
(C) A statistical model of average measurements.
(D) The style preference of a person.

147. A lockstitch, formed by a needle thread and a bobbin thread, is the most common type of stitch produced by:
(A) An overlock machine
(B) A domestic sewing machine
(C) A coverstitch machine
(D) A chainstitch machine

148. The focal point of a garment, to which the eye is drawn, is created by the principle of:
(A) Rhythm
(B) Proportion
(C) Balance
(D) Emphasis

149. The 'rise' stage of the fashion cycle is characterized by:
(A) The style being worn by only a few fashion innovators.
(B) The style being copied by manufacturers and becoming more widely available at lower prices.
(C) The style reaching its peak of popularity.
(D) The style beginning its decline in acceptance.

150. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : Darts are a fundamental shaping device in pattern making, used to convert a two-dimensional piece of fabric into a three-dimensional garment that fits the body's curves.
Reason (R) : The excess fabric within a dart's fold can be converted into other design features like gathers, tucks, or style lines.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

151. 'Staystitching' is a line of regular stitching sewn on a single layer of fabric inside the seam allowance to:
(A) Join two pieces of fabric together.
(B) Create a decorative effect.
(C) Prevent curved or bias edges from stretching out of shape.
(D) Form a channel for elastic.

152. In quality testing, 'GSM' is a key specification for fabric that stands for:
(A) Garment Style Measurement
(B) General Sewing Method
(C) Grams per Square Meter
(D) Grade of Superior Material

153. A care label symbol of a square with a circle inside it refers to:
(A) Ironing
(B) Washing
(C) Tumble drying
(D) Bleaching

154. What type of fabric is generally unsuitable for clothing for toddlers due to safety concerns (choking hazard)?
(A) Cotton jersey
(B) Denim
(C) Fabric with loosely attached beads, sequins, or pom-poms
(D) Fleece

155. When a research finding is 'statistically significant,' it means that:
(A) The result is unlikely to have occurred by random chance.
(B) The result is very important for the apparel industry.
(C) The null hypothesis has been proven to be absolutely true.
(D) The study was conducted without any errors.

156. The need for taking body measurements is LEAST critical when:
(A) Creating a bespoke tailored suit.
(B) Drafting a basic pattern block.
(C) Making a garment for a specific individual.
(D) Buying a 'one-size-fits-all' poncho.

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(C) Experiment
(D) Correlational study

116. To ensure accuracy when taking a hip measurement, the tape measure should be placed around:
(A) The natural waistline.
(B) The fullest part of the hip and buttocks.
(C) The high hip area, just below the waist.
(D) The upper part of the thighs.

117. The 'bobbin' of a sewing machine works in conjunction with the needle to:
(A) Control the sewing speed.
(B) Form the stitch by providing the lower thread.
(C) Guide the fabric under the needle.
(D) Cut the thread at the end of a seam.

118. Match the items in List I with the items in List II.
List I: (Garment Part)
P. Cuff
Q. Yoke
R. Gusset
S. Lapel
List II: (Location/Function)
1. A piece inserted into a seam to add roominess, often at the underarm.
2. The folded-back front edge of a jacket or coat, continuous with the collar.
3. The band of fabric at the bottom edge of a sleeve.
4. A shaped pattern piece across the top of a shirt or skirt for fit.

Code:
(A) P-3, Q-4, R-1, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-1, R-4, S-2
(D) P-4, Q-3, R-2, S-1

119. A fashion trend that originates from youth culture, music scenes, or street style and is later adopted by mainstream designers is an example of which theory?
(A) Trickle-Down Theory
(B) Trickle-Across Theory
(C) Trickle-Up Theory
(D) Fashion Cycle Theory

120. When altering a pattern to perform a Full Bust Adjustment (FBA), what is the primary goal?
(A) To make the entire pattern significantly larger for the wearer.
(B) To add room to the bust area without altering the waist or shoulders.
(C) To noticeably shorten the overall vertical length of the garment's bodice.
(D) To move the primary bust dart to a higher position on the shoulder.

121. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : The cutting room is a critical stage in apparel manufacturing where precision is paramount.
Reason (R) : Inaccurate cutting of fabric pieces leads to wastage of material and problems in garment assembly and fit.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

122. A fabric's ability to withstand rubbing and friction without showing signs of wear is known as:
(A) Tensile strength
(B) Abrasion resistance
(C) Dimensional stability
(D) Colorfastness

123. The international care labeling system uses symbols rather than words primarily because:
(A) Symbols are more decorative.
(B) Symbols are easier to print on small labels.
(C) Symbols overcome language barriers in the global market.
(D) Symbols are mandated by a single country's law.

124. When selecting a fabric for hospital scrubs, the most important properties would be:
(A) Sheerness and delicate drape
(B) Washability at high temperatures, durability, and comfort
(C) High luster and luxurious feel

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(B) Hips are wider than the bust and shoulders
(C) Waist is wider than the bust and hips
(D) Bust, waist, and hips are of similar width

167. A chain stitch, unlike a lockstitch, is formed with:
(A) Two threads, a needle thread and a bobbin thread.
(B) One or more needle threads and looper threads, but no bobbin.
(C) A special magnetic thread.
(D) A thread that is glued instead of stitched.

168. To make a short person appear taller, a designer would most likely use:
(A) Strong horizontal lines and the addition of wide, contrasting belts.
(B) Unbroken vertical lines and a monochromatic color scheme.
(C) Large, bold patterns and significantly contrasting color blocks.
(D) Fluffy fabric textures and wide, puffy sleeves at the shoulders.

169. What is a 'knock-off' in the context of the fashion industry?
(A) An original, high-fashion, couture garment.
(B) A line-for-line copy of designer garment, sold at a lower price.
(C) A classic style that has been in fashion for many years.
(D) A garment that has failed quality inspection.

170. 'Contouring' in pattern making involves:
(A) Adding extra ease to a pattern for a significantly loose garment fit.
(B) Removing excess fabric from a pattern to make it fit closer to the body.
(C) Standard grading of the pattern for different market size categories.
(D) Adding decorative style lines to the exterior surface of the garment.

171. The final process in garment manufacturing that includes final inspection, pressing, folding, and packing is known as:
(A) Cutting
(B) Fusing
(C) Finishing
(D) Spreading

172. If a garment specification sheet indicates a chest measurement of 50 cm with a tolerance of +/- 1 cm, what is the acceptable range of measurements?
(A) 50 cm to 51 cm
(B) 49 cm to 50 cm
(C) 49 cm to 51 cm
(D) Exactly 50 cm, with no tolerance

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173. What is the most likely consequence of washing a 'dry-clean only' wool suit in a washing machine?
(A) The suit will become brighter and cleaner.
(B) The wool fibers will felt and shrink irreversibly.
(C) The color will bleed onto other garments.
(D) The suit will become more water-resistant.

174. A key clothing need for toddlers that is different from infants is:
(A) The critical need for flame-retardant synthetic sleepwear for safety.
(B) The need for garments that withstand rough play and facilitate self-dressing.
(C) The constant need for very soft and completely non-irritating fabric types.
(D) The need for very frequent size changes due to extremely rapid growth.

175. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : The scope of research in apparel design is limited to historical costume studies.
Reason (R) : Modern apparel research also encompasses material science, consumer behavior, sustainable practices, and market analysis.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

176. Which piece of equipment is essential for the pattern making method of 'drafting'?
(A) A dress form
(B) A sewing machine
(C) A measuring tape and pattern-making

94. What is the most appropriate method for long-term storage of a heavily beaded or sequined gown?
(A) Hanging it on a thin wire hanger in a standard closet.
(B) Folding it tightly and placing it in a deep wooden drawer.
(C) Sealing it inside a vacuum-sealed plastic storage bag.
(D) Storing it flat, wrapped in acid-free tissue paper, in a box.

95. In selecting clothing for different age groups, the concept of 'ease of care' is most relevant to:
(A) The practicality of laundering and maintaining the garment for the wearer.
(B) The wearer's personal and subjective preference for specific fabric colors.
(C) The garment's strict adherence to current high-fashion trends and cycles.
(D) The total initial cost of the garment at the time of retail purchase.

96. If a researcher studies the evolution of the saree over the last century using old photographs, texts, and museum artifacts, what type of research is being conducted?
(A) Experimental research
(B) Historical research
(C) Survey research
(D) Case study research

97. An 'hourglass' figure type is best described as having:
(A) Shoulders that are significantly wider than the hips.
(B) Bust and hip measurements that are roughly equal, with a well-defined waist.
(C) Hips that are significantly wider than the shoulders.
(D) A less defined waist with bust, waist, and hip measurements being similar.

98. A 'bartack' is a type of stitch used in garment manufacturing to:
(A) Reinforce stress points like belt loops and pocket corners.
(B) Create a decorative pattern on the fabric surface.
(C) Attach a lining to the main fabric.
(D) Create a blind hem.

99. The visual path that the eye follows when looking at a garment is created by the principle of:
(A) Balance
(B) Proportion
(C) Movement or Rhythm
(D) Unity

100. Arrange the following consumer adoption groups in the correct chronological order in which they adopt a new fashion:
1. Early Majority
2. Innovators
3. Laggards
4. Early Adopters
(A) 2, 4, 1, 3
(B) 1, 2, 3, 4
(C) 4, 2, 1, 3
(D) 2, 1, 4, 3

101. What is the primary advantage of draping as a pattern making technique over drafting?
(A) It is much faster to complete and requires significantly less skill.
(B) It does not require the use of a standard anatomical dress form.
(C) It allows the designer to see the fabric's behavior and fit in three dimensions.
(D) It completely eliminates the need for sewing any subsequent test garments.

102. In apparel manufacturing, CAD and CAM stand for:
(A) Computer-Aided Design and Computer-Aided Manufacturing
(B) Custom Apparel Design and Custom Apparel Manufacturing
(C) Creative Apparel Drafting and Creative Apparel Making
(D) Computer-Assisted Drafting and Computer-Assisted Movement

103. 'Seam grin' is a quality defect where:
(A) The seam breaks under stress.
(B) The seam puckers and looks wrinkled.
(C) The stitches are visible from the outside when the seam is pulled.
(D) The thread color does not match the fabric.

104. Which of the following is a non-chemical method of removing wrinkles from a garment?

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(A) Croquis
(B) Fashion illustration
(C) Flat sketch
(D) Mood board

189. The 'trickle-up' theory of fashion is also known as the:
(A) Mass-market theory
(B) Subcultural leadership theory
(C) Upper-class leadership theory
(D) Collective selection theory

190. In flat pattern making, the 'slash and spread' method is used to:
(A) Successfully reduce the overall amount of fullness in a pattern piece.
(B) Add extra fullness to a pattern for features like flare or puff sleeves.
(C) Noticeably shorten a specific pattern piece along its vertical axis.
(D) Change the original anatomical location of a dart without adding size.

191. A 'bound seam' is created by:
(A) Overlapping two pieces of fabric and topstitching them down.
(B) Enclosing the raw edges of a seam with a separate strip of fabric.
(C) Stitching a seam and then pressing the allowances open.
(D) Sewing a seam on the wrong side, then the right side, to enclose the raw edges.

192. What quality parameter is being tested when a fabric sample is repeatedly stretched and then measured to see if it returns to its original length?
(A) Colorfastness
(B) Elastic recovery
(C) Abrasion resistance
(D) Tear strength

193. A care symbol showing a square with a horizontal line in the middle means the garment should be:
(A) Hung to dry
(B) Dried flat
(C) Tumble dried on low
(D) Drip dried

194. When selecting fabrics for sleepwear, a primary consideration should be:
(A) A stiff and structured hand-feel.
(B) A rough and abrasive texture.
(C) Comfort, softness, and breathability.
(D) Water-repellent properties.

195. Read the given statements and select the correct option.
Statement I : 'Types' of research refers to the methodology (e.g., experimental).
Statement II : 'Scope' of research defines the boundaries of a specific study.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

196. The anthropometric data for a population is often presented in the form of:
(A) Fashion magazines
(B) Individual pattern blocks
(C) Size charts and statistical tables
(D) Garment care labels

197. Match the items in List I with the items in List II.
List I: (Sewing Machine Part)
P. Take-up Lever
Q. Stitch Regulator
R. Hand Wheel
S. Feed Dog
List II: (Function)
1. Controls the length of the stitches.
2. Moves the fabric under the needle.
3. Controls the movement of the needle and can be turned manually.
4. Pulls thread from the spool and controls its flow for each stitch.
Code:
(A) P-1, Q-3, R-2, S-4
(B) P-4, Q-1, R-3, S-2
(C) P-4, Q-2, R-1, S-3
(D) P-2, Q-1, R-3, S-4

198. The design principle of 'unity' is achieved when:
(A) All parts of the design work together to create a sense of completeness and harmony.
(B) The design has one clear focal point.
(C) The design is perfectly symmetrical.
(D) The design uses many contrasting and unrelated elements.

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1. Durability for active play, self-dressing features
2. Peer acceptance, self-expression, trend-awareness
3. Softness, non-irritating, ease for the caregiver
4. Comfort, ease of dressing (e.g., front closures), warmth

Code:
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-2, R-4, S-1
(C) P-3, Q-4, R-2, S-1
(D) P-2, Q-1, R-4, S-3

243. The 'alternative hypothesis' (H1 or Ha) in a research study represents:
(A) The statement of no effect or no difference.
(B) A summary of previous research.
(C) A research question that cannot be tested.
(D) The claim or theory that the researcher is trying to prove.

244. To take a proper sleeve length measurement, the arm should be:
(A) Held straight out to the side.
(B) Held straight down at the side.
(C) Bent slightly at the elbow.
(D) Raised straight above the head.

245. An 'attachment' for a sewing machine is best defined as:
(A) A removable device that helps perform a specialized task, like making buttonholes.
(B) A fundamental part of the machine required for it to function, like the needle.
(C) The power cord and foot pedal.
(D) The instruction manual for the machine.

246. Which of the following is NOT an element of design?
(A) Line
(B) Color
(C) Texture
(D) Harmony

247. The widespread adoption of social media has most significantly impacted the fashion industry by:
(A) Making fabric production more difficult.
(B) Increasing the speed of trend diffusion and the influence of 'influencers'.
(C) Eliminating the need for seasonal collections.
(D) Forcing all brands to use only natural fibers.

248. The most basic pattern, which fits the body closely with minimal ease and no design features, is called a:
(A) Production pattern
(B) Sloper or Block
(C) Fashion pattern
(D) Graded pattern

249. The process flow from fabric to apparel manufacture begins with:
(A) Spreading and cutting the fabric.
(B) Sewing the garment.
(C) Designing the garment and creating the pattern.
(D) Pressing and packing the finished product.

250. Consider the following parameters related to apparel quality:
1. Colorfastness
2. Seam strength
3. Dimensional stability (shrinkage)
4. Garment fit
5. Retail price

Which of the above are considered major quality parameters?
(A) 1, 2, and 5 only
(B) 3, 4, and 5 only
(C) 1, 2, 3, and 4 only
(D) 1, 2, 3, 4, and 5

Direction : Please read the following source carefully.

The precision of apparel design and manufacturing is fundamentally rooted in the science of anthropometry, the systematic measurement of the human body. Obtaining accurate body measurements is not merely a procedural task but a critical necessity for ensuring optimal garment fit, comfort, and functionality. The standard procedure involves using a flexible measuring tape to capture key dimensions such as chest, waist, hips, and inseam, among others, with the subject standing in a natural, erect posture. These measurements form the basis for creating individualised patterns and for developing standardized sizing systems for mass production. The need for this data

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(A) Early Adopters
(B) Laggards
(C) Innovators
(D) The Late Majority

210. Darts can be manipulated and converted into which of the following design features?
(A) Pockets
(B) Tucks, gathers, or pleats
(C) Zippers
(D) Buttonholes

211. Which machine is used to attach buttons to garments at high speed in an industrial setting?
(A) An overlock machine
(B) A lockstitch machine
(C) A button sewer machine
(D) A coverstitch machine

212. A 'tolerance' in a garment's quality specifications refers to:
(A) The ideal, perfect measurement for a given point.
(B) The permissible range of variation from a standard measurement.
(C) A major defect that causes the garment to be rejected.
(D) The fabric's ability to withstand stress.

213. To remove a grease or oil-based stain, it is best to:
(A) Immediately apply hot water to the stain.
(B) Pretreat the stain with a solvent or detergent before washing.
(C) Bleach the entire garment immediately.
(D) Ignore the stain as it will come out in a normal wash.

214. The selection of fabric for a wedding gown would prioritize properties like:
(A) High durability and soil resistance.
(B) Aesthetics, drape, and feel.
(C) Moisture-wicking and quick-drying.
(D) Ease of care and machine washability.

215. A study that aims to find a cause-and-effect relationship between two variables is called:
(A) Descriptive research
(B) Experimental research
(C) Historical research
(D) Ethnographic research

216. Anthropometric data is crucial for the apparel industry to:
(A) Forecast next season's colors.
(B) Develop standardized sizing systems.
(C) Decide on marketing slogans.
(D) Set the retail price of garments.

217. A 'blind hem' stitch is designed to:
(A) Be highly visible and decorative on the garment exterior.
(B) Be extremely strong for heavy-duty outdoor sporting gear.
(C) Create a hem that is almost invisible from the right side.
(D) Attach a heavy internal lining to a tailored winter jacket.

218. In terms of design, a small, bright-colored detail on an otherwise neutral-colored garment is an example of the principle of:
(A) Rhythm
(B) Balance
(C) Proportion
(D) Emphasis

219. Which statement best describes the relationship between fashion and technology?
(A) Fashion remains almost entirely unaffected by modern technological changes.
(B) Technology is a major driver of fashion change from fiber to e-commerce.
(C) Technological advancements only affect the manufacturing stage of clothing.
(D) Current fashion trends strictly dictate the direction of new technologies.

220. Match the items in List I with the items in List II.
List I: (Alteration)
P. Lengthening the bodice
Q. Full Bust Adjustment (FBA)
R. Swayback adjustment
S. Shortening the sleeve
List II: (Problem)
1. Fabric pulls and wrinkles horizontally above the buttocks.
2. The waistline of a garment rides up too high.
3. The sleeve hem hangs down too low.
4. The bodice is tight across the bust and pulls up at the front.

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199. What does the term 'fashion-forward' describe?
(A) A person or style that is classic and timeless.
(B) A person who is among the last to adopt a trend.
(C) A person or style that is ahead of the current fashion trends.
(D) A style that is in the decline stage of the fashion cycle.

200. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : The flat pattern making technique relies on a basic pattern block, or sloper, that has been fitted to a specific set of measurements.
Reason (R) : Any design variation created from the sloper will automatically fit perfectly without the need for a test garment.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

201. Which of the following is a major process in the apparel manufacturing sequence?
(A) Weaving the fabric
(B) Spinning the yarn
(C) Garment assembly (sewing)
(D) Growing the cotton

202. The strength required to tear a fabric apart is measured as:
(A) Bursting strength
(B) Tensile strength
(C) Tear strength
(D) Seam strength

203. For delicate fabrics like silk and lace, what is the most recommended method of washing?
(A) Machine wash on a hot, heavy-duty cycle.
(B) Hand washing in cool water with a mild detergent.
(C) Tumble drying on high heat to remove wrinkles.
(D) Using chlorine bleach to remove stains.

204. Which of the following is a key consideration when selecting clothing for an office environment?
(A) Adherence to company dress code and professionalism.
(B) Maximum comfort for athletic activity.
(C) High visibility and reflective properties for safety.
(D) Garments that allow for rapid growth.

205. Consider the following research topics within apparel design:
1. Analysis of consumer purchasing behavior for sustainable clothing.
2. Development of new smart textiles with biometric sensors.
3. A historical study of military uniforms' influence on fashion.
4. An ergonomic study of fit for specialized occupational wear.

Which of the above represent valid research scopes?
(A) 1 and 3 only
(B) 2 and 4 only
(C) 1, 2, and 3 only
(D) 1, 2, 3, and 4

206. 'Girth' measurements in anthropometry are also known as:
(A) Vertical measurements
(B) Circumference measurements
(C) Length measurements
(D) Width measurements

207. A 'free arm' on a sewing machine is an advancement that facilitates:
(A) Sewing large, flat pieces of fabric like quilts.
(B) Sewing in a circular manner, such as for cuffs and trouser legs.
(C) Automatic threading of the needle.
(D) High-speed straight stitching only.

208. The 'value' of a color refers to its:
(A) Lightness or darkness
(B) Brightness or dullness
(C) Name, such as red or blue
(D) Temperature, such as warm or cool

209. The individuals who are opinion leaders and help a new style gain acceptance in the 'rise' stage of the fashion cycle are known as:

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(C) Selvage
(D) Bias

231. A quality check performed on garments while they are still on the sewing line is called:
(A) Pre-production check
(B) Final audit
(C) In-process quality control
(D) Fabric inspection

232. An 'enzyme wash' is a laundry process often used to:
(A) Make fabrics stiffer and more rigid.
(B) Increase the water-repellency of a garment.
(C) Give fabrics like denim a softer feel and a slightly worn look.
(D) Add a protective coating to fabrics.

233. The most critical factor for selecting athletic wear fabric is its ability to:
(A) Retain heat
(B) Manage moisture and allow for stretch
(C) Resist wrinkling
(D) Have a formal appearance

234. In research, a 'variable' is:
(A) The final conclusion of the study.
(B) A fixed and unchanging fact.
(C) Any characteristic, number, or quantity that can be measured or counted.
(D) The person conducting the experiment.

235. The 'inverted triangle' body shape is characterized by:
(A) Hips being wider than shoulders.
(B) Shoulders and bust being wider than the hips.
(C) A lack of waist definition.
(D) A balanced, hourglass figure.

236. Consider the following tools:
1. Tracing wheel
2. Tailor's chalk
3. French curve
4. Notcher

Which of the above are primarily used for marking on patterns or fabric?
(A) 1 and 2 only
(B) 3 and 4 only
(C) 1, 2 and 4 only
(D) 1, 2, 3 and 4

237. A 'mood board' in the context of apparel design is:
(A) A technical specification sheet.
(B) A list of all the seams used in a garment.
(C) A collage of images, fabrics, and colors used to convey the theme and feeling of a collection.
(D) The final cost sheet for a garment.

238. A fashion that is created and sold at a high price for a very limited custom clientele is known as:
(A) Haute Couture
(B) Prêt-à-porter (Ready-to-wear)
(C) Mass market
(D) A fad

239. The process of transferring dart shaping into a seam is a common dart manipulation technique that creates a:
(A) Style line or princess seam
(B) Gusset
(C) Godet
(D) Yoke

240. The '4-point system' is a widely used method for:
(A) Grading patterns into four sizes.
(B) Inspecting and grading the quality of fabric.
(C) The four main principles of design.
(D) A four-step sewing process.

241. Read the given statements and select the correct option.
Statement I : Proper storage of clothing, such as cleaning before storing and using appropriate hangers, can extend its life.
Statement II : All types of fabrics, including heavy knits and delicate silks, should be stored on hangers to prevent wrinkles.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

242. Match the items in List I with the items in List II.
List I: (Age Group)
P. Infant
Q. Adolescent
R. Elderly
S. Toddler
List II: (Need)

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skill. For example, a folder attachment can precisely fold a strip of fabric for a clean, uniform binding along a neckline. These advancements, encompassing both new machine types and sophisticated attachments, represent a move towards greater automation and specialization in the apparel manufacturing process, allowing for higher quality, consistency, and production speed.
Based on the above source, attempt the following five questions.

256. What is the primary function of an overlock machine as described in the passage?
(A) To create decorative embroidery and motifs on garments.
(B) To finish raw fabric edges and construct seams in knitwear.
(C) To attach buttons and create buttonholes automatically.
(D) To perform the initial cutting of fabric panels from a lay.

257. According to the source, what is the main advantage of using specialized attachments on sewing machines?
(A) They reduce the need for understanding machine parts like the needle bar and feed dog.
(B) They allow a single machine to use multiple types of threads simultaneously.
(C) They eliminate the need for specialized machines like overlockers.
(D) They automate complex tasks, enhancing productivity and consistency.

258. The passage suggests that a chain stitch machine would be most suitable for which of the following applications?
(A) Creating a seam on a pair of stretch-denim jeans or sportswear.
(B) Sewing a rigid and non-stretch seam on a formal cotton shirt.
(C) Attaching a delicate lace trim to a garment.
(D) Topstitching a heavy canvas bag.

259. Based on the source, knowledge of machine parts like the presser foot and tension discs is essential for:
(A) forecasting fashion trends in garment construction.
(B) designing the layout of a garment factory.
(C) effective operation and maintenance of the sewing equipment.
(D) selecting the colour and type of fabric for a garment.

260. Which of the following statements can be inferred from the passage about the evolution of garment manufacturing?
(A) There is a significant trend towards automation and specialization to improve efficiency.
(B) The industry is moving away from specialized machinery towards more generalized tools.
(C) The basic lockstitch machine is now considered obsolete in modern factories.
(D) Manual skill is no longer valued in the apparel industry due to advancements.

Direction : Please read the following source carefully.

The aesthetic and structural success of apparel is governed by the deliberate application of the elements and principles of design. The elements of design—line, shape, color, and texture—are the fundamental components or tools that a designer works with. Line can direct the eye, create movement, and define the silhouette of a garment. Shape refers to the two-dimensional outline, while form refers to the three-dimensional structure. Color possesses immense psychological and symbolic power, capable of evoking mood and creating visual interest. Texture, the surface quality of a fabric, appeals to both sight and touch, adding depth and character. These elements are organized using the principles of design: balance, rhythm, emphasis, proportion, and harmony. Balance can be symmetrical (formal) or asymmetrical (informal), providing a sense of stability. Rhythm creates visual movement through repetition or gradation of elements. Emphasis establishes a focal point, drawing attention to a specific area of the garment. Proportion concerns the relationship between the sizes of different parts of an ensemble. Finally, harmony is achieved when all elements and principles work together cohesively, resulting in a unified and pleasing whole. The application of these concepts is evident in the strategic placement and design of garment parts, such as collars, cuffs, pockets, and hemlines, which are manipulated to achieve

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extends beyond simple fit; it informs the grading of patterns across different sizes and helps in understanding the diversity of human physique. Figure types, which are categorizations of body shapes based on proportional relationships (e.g., bust-waist-hip ratios), are directly derived from anthropometric data. Analyzing these figure types allows designers and manufacturers to cater to a wider demographic, moving beyond a single idealized form and addressing the anatomical variations present in the population. Consequently, anthropometry acts as the bridge between the abstract concept of a garment design and its tangible, well-fitting manifestation on a three-dimensional human form.

Based on the above source, attempt the following five questions.

251. According to the source, what is the primary role of anthropometry in the context of apparel design?
(A) To dictate fashion trends and aesthetic preferences in clothing.
(B) To provide a scientific basis for body measurement to ensure garment fit and comfort.
(C) To exclusively create sizing systems for athletic and performance wear.
(D) To analyze the chemical composition of fabrics used in garments.

252. Which of the following best describes the relationship between "figure types" and "anthropometry" as presented in the paragraph?
(A) Figure types are conceptual categorizations of body shapes derived from the analysis of anthropometric data.
(B) Figure types are an outdated system replaced entirely by modern anthropometry.
(C) Anthropometry is a sub-discipline that focuses exclusively on idealised figure types.
(D) Anthropometry and the study of figure types are unrelated fields within apparel design.

253. It can be inferred from the passage that a primary reason for taking body measurements is to:
(A) determine the retail price of a finished garment.
(B) select the appropriate colour and texture for a specific apparel design.
(C) facilitate the transition from a two-dimensional design to a three-dimensional, well-fitting product.
(D) forecast the lifecycle of a particular fashion trend.

254. Based on the information provided, what is a crucial aspect of the standard procedure for taking body measurements?
(A) Using a rigid metal ruler for maximum accuracy.
(B) Ensuring the subject is in a seated position to relax the muscles.
(C) Taking measurements only after the fabric has been selected.
(D) The subject maintaining a natural and erect posture.

255. The passage suggests that the application of anthropometric data in mass production primarily serves to:
(A) increase the speed of the sewing process.
(B) reduce the cost of raw materials.
(C) develop standardized sizing systems that cater to diverse body shapes.
(D) create garments that are one-size-fits-all.

Direction : Please read the following source carefully.

The evolution of garment manufacturing has been significantly shaped by advancements in sewing machines and their associated tools. While the basic lockstitch sewing machine remains a cornerstone of the industry, a diverse array of specialized machines has been developed to perform specific tasks with greater efficiency and precision. For instance, overlock machines (or sergers) are indispensable for finishing raw fabric edges to prevent fraying and for constructing durable seams, particularly in knitwear. Chain stitch machines create a more flexible seam, making them suitable for applications requiring stretch. Understanding the parts of these machines—such as the needle bar, presser foot, feed dog, and tension discs—is crucial for operation and maintenance. Beyond the machines themselves, the use of specialized attachments dramatically enhances their versatility and productivity. Attachments like hemmers, binders, and buttonholers automate complex operations that would otherwise be time-consuming and require a high level of manual

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Code:
(A) P-1, Q-3, R-2, S-4
(B) P-2, Q-4, R-1, S-3
(C) P-4, Q-2, R-3, S-1
(D) P-2, Q-1, R-4, S-3

221. A 'Cut, Make, and Trim' (CMT) unit in apparel manufacturing is a factory that:
(A) Only designs the garments and outsources all production tasks.
(B) Only weaves raw fabric and sells it to manufacturing firms.
(C) Sews garments from pre-cut fabric provided by the client.
(D) Handles the entire process from initial design to final retail.

222. When inspecting a finished garment, a 'shade variation' defect means that:
(A) The garment is a different color than ordered.
(B) Different parts of the same garment have slightly different shades of the same color.
(C) The color fades easily in sunlight.
(D) The garment has a stain on it.

223. The best way to store knitted garments like heavy sweaters is to:
(A) Hang them on narrow shoulder hangers.
(B) Fold them and store them flat on a shelf or in a drawer.
(C) Keep them in a tightly sealed plastic container.
(D) Hang them by the hem on clip hangers.

224. Selecting clothing for infants requires special attention to:
(A) Brand names and logos.
(B) Durability for sports.
(C) The absence of small, detachable parts and the softness of the fabric.
(D) The garment's ability to be tailored.

225. Consider the following equipments and tools:
1. Shears
2. Tracing Paper
3. Hip Curve Ruler
4. Industrial Lockstitch Machine
5. Steam Press

Which of the above are essential for garment manufacturing and pattern making?
(A) 1 and 4 only
(B) 1, 2 and 3 only
(C) 4 and 5 only
(D) 1, 2, 3, 4, and 5

226. What is the primary purpose of a dress form in an apparel design studio?
(A) To serve as a three-dimensional model of the human torso for draping and fitting
(B) To store finished garments
(C) To press garments after sewing
(D) To display clothing in a retail store

227. Which element of design is defined as a two-dimensional area enclosed by a line?
(A) Texture
(B) Shape
(C) Form
(D) Color

228. The following question consists of two statements — Assertion (A) and Reason (R). Answer the question by selecting the appropriate option.
Assertion (A) : The fashion cycle for a 'fad' is significantly shorter than for a 'classic'.
Reason (R) : Fads experience a rapid rise in popularity followed by an equally rapid decline, whereas classics maintain a stable level of acceptance over a long period.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

229. A pattern maker adds 'ease' to a pattern to:
(A) Allow room for comfort and movement beyond the body measurements.
(B) Make the final garment fit significantly smaller than the actual body.
(C) Add specific decorative surface details such as gathers or ruffles.
(D) Provide a visual mark for the grainline placement on the fabric.

230. The term for the edge finish of a piece of fabric, woven to prevent unraveling, is:
(A) Hem
(B) Seam

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a desired aesthetic outcome.

Based on the above source, attempt the following five questions.

261. According to the passage, which principle of design is concerned with creating a focal point in a garment?
(A) Rhythm
(B) Balance
(C) Proportion
(D) Emphasis

262. The text describes line, shape, color, and texture as:
(A) principles used to organize the structure of a garment.
(B) fundamental components or tools for a designer.
(C) concepts applied only to illustrations, not finished garments.
(D) interchangeable terms for the overall harmony of a design.

263. A designer who arranges identical pockets on both sides of a jacket's front is primarily utilizing which design principle?
(A) Asymmetrical balance
(B) Gradation rhythm
(C) Symmetrical balance
(D) Textural emphasis

264. It can be inferred from the source that harmony is achieved in apparel design when:
(A) a single element of design, such as a bright color, dominates the entire garment.
(B) the garment is constructed using only one type of fabric texture.
(C) the proportion of the garment parts matches the wearer's body exactly.
(D) all the individual design elements and principles are integrated into a unified whole.

265. The passage suggests that the design of garment parts like collars and cuffs is a practical application of:
(A) the elements and principles of design.
(B) fashion forecasting terminologies.
(C) anthropometric measurement techniques.
(D) apparel quality testing parameters.

Direction : Please read the following source carefully.

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The domain of fashion is characterized by a unique vocabulary and dynamic processes, most notably the fashion cycle. Key terminologies help define this landscape; for instance, 'style' refers to a distinctive type of garment with specific characteristics, whereas 'fashion' is the style that is currently accepted and used by a majority of a group. The fashion cycle describes the lifespan of a style's popularity, typically progressing through five stages: introduction, rise, culmination, decline, and obsolescence. Understanding this cycle is crucial for fashion forecasting, which involves predicting future trends in colors, fabrics, and silhouettes. Several theories attempt to explain the direction of fashion movement, or fashion adoption. The 'trickle-down' theory posits that trends are adopted by the upper class and gradually flow down to the lower classes. Conversely, the 'trickle-up' theory suggests that innovation can emerge from street style and subcultures, later to be adopted by mainstream fashion. The 'trickle-across' or mass-market theory argues that fashion moves horizontally within similar social groups. The pace and direction of fashion are influenced by a multitude of factors, including technological advancements, economic conditions, social changes, and global events, making fashion a complex reflection of contemporary culture.

Based on the above source, attempt the following five questions.

266. Which fashion adoption theory explains a trend that begins in a youth subculture and is later featured in high-fashion collections?
(A) Trickle-down theory
(B) Trickle-up theory
(C) Trickle-across theory
(D) Fashion cycle theory

267. According to the passage, what is the primary distinction between 'style' and 'fashion'?
(A) 'Style' refers to accessories, while 'fashion' refers to garments.
(B) 'Style' is a distinctive design, while 'fashion' is a style that is currently popular.
(C) 'Style' has a longer lifespan than 'fashion'.
(D) 'Style' is determined by designers, while 'fashion' is determined by retailers.

268. The stage in the fashion cycle where a style is at its peak of popularity and is widely accepted is known as:
(A) Culmination
(B) Introduction
(C) Rise
(D) Obsolescence

269. It can be inferred from the text that fashion forecasting is a process that primarily aims to:
(A) document the history of past fashion trends.
(B) set the retail prices for upcoming clothing lines.
(C) predict the future direction of styles, colors, and fabrics.
(D) enforce a specific theory of fashion adoption on consumers.

270. The passage suggests that fashion is not an isolated phenomenon but is significantly influenced by:
(A) a single, unchanging principle of aesthetics.
(B) the fixed rules of the trickle-down theory only.
(C) the personal preferences of a small group of elite designers.
(D) a wide range of social, economic, and technological factors.

Direction : Please read the following source carefully.

Pattern making is the foundational engineering process in apparel design, translating a two-dimensional design concept into a template for a three-dimensional garment. There are three primary techniques for creating patterns: drafting, draping, and flat pattern making. Drafting involves creating a pattern from scratch using precise body measurements. This method is highly technical and relies on mathematical calculations to construct the geometric shapes of the pattern pieces. Draping, in contrast, is a more artistic and intuitive process where fabric is directly manipulated and pinned onto a dress form to create the garment's structure, which is then marked and transferred to paper. The most common technique in the industry is flat pattern making, which starts with a basic, pre-existing pattern block or 'sloper' that fits a standard size. This sloper is then manipulated to create a variety of different styles. A key aspect of this technique is dart manipulation, where darts—the triangular folds used to shape fabric to the body's curves—can be moved, combined, or converted into other design features like gathers, tucks, or style lines without altering the basic fit of the sloper. Furthermore, pattern alteration is a crucial skill to adjust patterns for individual fit variations or to modify an existing design.

Based on the above source, attempt the following five questions.

271. Which pattern making technique is described as an artistic process involving the direct manipulation of fabric on a dress form?
(A) Drafting
(B) Flat pattern making
(C) Draping
(D) Dart manipulation

272. The primary purpose of dart manipulation in flat pattern making is to:
(A) change the fundamental size and fit of the sloper.
(B) create different stylistic features while maintaining the original fit.
(C) add decorative elements like embroidery or beading.
(D) calculate the fabric consumption for a garment.

273. According to the passage, what is the defining characteristic of the drafting technique?
(A) It begins with a pre-existing pattern block.
(B) It is primarily used for knit fabrics.
(C) It involves pinning fabric directly onto a human model.
(D) It creates patterns based on mathematical calculations from body measurements.

274. A 'sloper' is best understood as:
(A) a basic pattern block used as a starting point in flat pattern making.
(B) a specialized sewing machine attachment.
(C) a tool used for measuring body dimensions in drafting.
(D) a term for a discarded or obsolete pattern.

275. From the information provided, it can be inferred that flat pattern making is the most common technique in the industry likely because it:
(A) requires no technical skill or knowledge of

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fit.
(B) is the only method that allows for dart manipulation.
(C) offers an efficient way to generate a wide variety of styles from a standardized base.
(D) eliminates the need for pattern alterations.

Direction : Please read the following source carefully.

The transformation of fabric into finished apparel is a complex, sequential process known as apparel manufacturing. This process begins long before sewing, with pre-production steps such as fabric inspection, pattern making, grading, and marker making. Once the fabric is laid out, it is cut into garment components according to the marker plan. The core of the manufacturing process is the assembly or sewing stage, which utilizes a variety of seam types and specialized machines. Seams, the joints between two or more pieces of fabric, are classified based on their structure and are crucial for both the garment's durability and appearance. For example, a plain seam is basic, while a lapped seam is often used for joining patch pockets or in denim garments. The choice of seam and the corresponding machine—such as a lockstitch, chain stitch, or overlock machine—depends on the fabric type, desired seam strength, and aesthetic finish. Post-sewing, the process continues with finishing and pressing, where garments are inspected for defects, trimmed of loose threads, and pressed to achieve a crisp, final appearance. A standardized terminology is used throughout the production floor to ensure clear communication, covering everything from stitch types to seam allowances and component names. This systematic flow from fabric to finished apparel ensures efficiency, consistency, and quality in mass production.

Based on the above source, attempt the following five questions.

276. Which of the following represents a pre-production step in the apparel manufacturing process described in the passage?
(A) Marker making and fabric cutting.
(B) Pressing the final garment.
(C) Sewing the main body seams.
(D) Trimming loose threads.

277. According to the source, the choice of a specific seam type and sewing machine primarily depends on:
(A) the fashion forecast for the season.
(B) the personal preference of the machine operator.
(C) the final retail price of the garment.
(D) the fabric type, required strength, and desired appearance.

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278. A lapped seam is provided as an example of a seam type suitable for:
(A) finishing the raw edges of knit fabrics.
(B) joining patch pockets or manufacturing denim apparel.
(C) creating a nearly invisible join in delicate silks.
(D) garments that require a high degree of stretch.

279. The passage suggests that the use of standardized terminology in apparel manufacturing is important for:
(A) marketing the final product to consumers.
(B) calculating the import duties on fabrics.
(C) ensuring clear communication and consistency on the production floor.
(D) developing new fashion theories.

280. What is the final stage of the apparel manufacturing process mentioned in the source, after sewing is complete?
(A) Fabric inspection and grading.
(B) Cutting the fabric panels.
(C) Assembling the garment components.
(D) Finishing and pressing.

Direction : Please read the following source carefully.

Maintaining high quality in apparel production necessitates a rigorous system of quality testing, guided by established standards and specifications. Quality standards are broad benchmarks of excellence, while quality specifications provide detailed, measurable criteria that a product must meet. This framework is applied to both the raw material (fabric) and the finished product (garment). Key quality parameters for fabrics include tests for physical properties like tensile strength (resistance to breaking under tension), tear strength, and abrasion resistance. Other

ANSWERS

1. (B) Anthropometry
Anthropometry represents the systematic study of human body measurements and proportions for various applications. This scientific discipline provides essential data used in apparel design to establish standardized sizing systems and improve garment fit. By analyzing the physical dimensions of specific populations, designers can create clothing that accommodates diverse body types effectively. It ensures that mass-produced apparel meets the ergonomic needs of the intended consumer groups.

2. (A) Presser foot
The presser foot is a critical component of a sewing machine that maintains downward pressure on the fabric. This part works in tandem with the feed dog to ensure the material remains stable and moves smoothly during the stitching process. Proper adjustment of this component is necessary to prevent fabric slippage or uneven feeding. It facilitates the creation of consistent stitches across various textile types.

3. (C) It is the feeling of movement created by the repetition of design elements.
Rhythm is a fundamental principle of design that establishes an organized sense of movement within a garment. It is achieved through the strategic repetition of elements such as lines, colors, shapes, or textures. This visual flow guides the viewer's eye across the apparel in a rhythmic manner. Effective use of this principle creates harmony and provides a dynamic quality to the overall fashion composition.

4. (D) Classic
A classic refers to a specific style that maintains its popularity and acceptance over a very long period. Unlike short-lived trends, these garments are characterized by simple, elegant designs that transcend seasonal fashion changes. Examples include the white button-down shirt or the little black dress. These items remain relevant for years because they offer timeless appeal and can be easily integrated into various wardrobes.

5. (C) Draping
Draping is a three-dimensional pattern-making technique where fabric is manipulated directly on a dress form. This method allows designers to visualize how a textile falls, folds, and conforms to the human body in real-time. It is particularly useful for creating complex, fluid designs that are difficult to draft on a flat surface. The resulting fabric shapes are later converted into precise two-dimensional paper patterns.

6. (B) Lapped seam
A lapped seam is constructed by overlapping two layers of fabric and stitching them together through all thicknesses. This type of seam is valued for its durability and is frequently used in heavy-duty garments like denim jeans. It provides a flat, strong join that resists stress and fraying during regular wear. The visible stitching on the surface often serves both a functional and decorative purpose.

7. (D) Acceptable Quality Limit
Acceptable Quality Limit serves as a statistical standard used in the apparel industry to determine the maximum number of defective items allowed in a production lot. It provides a clear framework for quality control inspectors to accept or reject shipments based on predefined sampling plans. This system helps manufacturers maintain consistent standards while balancing the costs of inspection against the risks of delivering poor products.

8. (A) Combining mechanical action, chemical action, and temperature
Effective laundering relies on the synergy of three primary factors to remove soil and maintain fabric integrity. Mechanical action involves the agitation provided by the machine to loosen dirt. Chemical action refers to the role of detergents in breaking down oils and stains. Temperature influences the efficiency of these chemical reactions and helps in sanitization. Balancing these elements ensures that garments are cleaned thoroughly without damage.

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286. According to the source, the three primary actions involved in the principles of washing are:
(A) storing, pressing, and mending.
(B) chemical, thermal, and mechanical.
(C) sorting, soaking, and drying.
(D) bleaching, softening, and rinsing.

287. What is the main purpose of care labels and symbols on clothing?
(A) To indicate the brand name and country of origin.
(B) To list the elements and principles of the garment's design.
(C) To provide standardized instructions for proper maintenance.
(D) To serve as a decorative element on the garment.

288. The passage suggests that for long-term storage, it is crucial to:
(A) store garments in a bright, sunlit area to keep them fresh.
(B) clean the garments before storing them.
(C) use extra fabric softener to protect the fibers.
(D) fold clothes tightly to save space.

289. A laundry agent specifically designed to whiten fabrics and remove tough stains is known as a:
(A) detergent.
(B) fabric softener.
(C) sizing agent.
(D) bleach.

290. It can be inferred from the passage that using a chlorine bleach on a garment with a "Do Not Bleach" symbol could result in:
(A) permanent fabric damage.
(B) improved color vibrancy.
(C) reduced static cling.
(D) better dimensional stability.

Direction : Please read the following source carefully.

The selection of clothing is a nuanced process influenced by the specific needs of different age groups and the functional requirements of various end uses. For infants, clothing selection prioritizes safety, comfort, and ease of care. Garments should be made from soft, absorbent, and non-irritating fabrics, be free of small, detachable parts that could pose a choking hazard, and feature designs that allow for easy dressing and diaper changes. As children grow, durability and freedom of movement become more important, accommodating their active lifestyles. For adolescents, clothing selection is heavily influenced by peer groups and the need for self-expression, with fashion and brand identity playing a significant role. For adults, clothing choices are often dictated by occupation, social roles, and personal style. Finally, for the elderly, comfort, ease of movement, and simplicity in fastening are paramount, often requiring adaptive clothing features. Parallel to age-based selection is the selection of fabrics for different end uses. For instance, sportswear demands fabrics with properties like moisture-wicking, stretch, and breathability. Workwear may require high durability, stain resistance, and safety features. In contrast, evening wear often prioritizes aesthetic qualities such as luster, drape, and texture over functional performance. This dual consideration of the wearer's life stage and the garment's intended purpose is fundamental to thoughtful apparel selection.

Based on the above source, attempt the following five questions.

291. When selecting clothing for infants, which of the following is identified as a primary consideration?
(A) Current fashion trends and brand identity.
(B) Aesthetic qualities like luster and drape.
(C) Safety, comfort, and ease of care.
(D) High durability to withstand rough activity.

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292. According to the passage, the selection of fabrics for sportswear would prioritize properties such as:
(A) moisture-wicking, stretch, and breathability.
(B) stain resistance and high durability.
(C) luster, drape, and rich texture.
(D) non-irritating softness and absorbency.

293. The passage suggests that clothing selection for adolescents is uniquely and heavily influenced by:
(A) occupational requirements and social roles.
(B) the need for adaptive features and ease of fastening.
(C) concerns about safety from choking hazards.
(D) peer group acceptance and the search for

critical fabric tests assess colorfastness to washing, light, and rubbing, ensuring the color remains stable throughout the product's life. When assessing finished garments, quality evaluation focuses on different attributes. Seam strength and seam slippage are vital for durability. Dimensional stability, which measures the garment's ability to retain its size and shape after washing, is crucial for fit retention. Appearance after laundering is another key parameter. A significant part of quality control is the identification and classification of defects. Fabric defects can include neps (small knots of entangled fibers), slubs (thick places in the yarn), or color variations. Garment defects might range from minor issues like loose threads to major flaws like open seams, skipped stitches, or incorrect sizing, all of which impact the final product's value and acceptability.

Based on the above source, attempt the following five questions.

281. What is the primary difference between quality standards and quality specifications as described in the text?
(A) Standards are broad benchmarks, while specifications are detailed, measurable criteria.
(B) Standards apply to fabrics, while specifications apply only to garments.
(C) Standards are detailed criteria, while specifications are broad benchmarks.
(D) Standards relate to defects, while specifications relate to performance.

282. Testing for "dimensional stability" in a garment is important to ensure it:
(A) resists breaking under tension.
(B) retains its original size and shape after being washed.
(C) does not fade when exposed to sunlight.
(D) has a strong seam that does not unravel.

283. Which of the following is identified in the passage as a type of fabric defect?
(A) Open seams
(B) Slubs
(C) Skipped stitches
(D) Incorrect sizing

284. A quality test that measures a fabric's resistance to breaking when pulled would be assessing its:
(A) tensile strength.
(B) colorfastness.
(C) dimensional stability.
(D) seam strength.

285. It can be inferred from the passage that the overall goal of apparel quality testing is to:
(A) increase the speed of the manufacturing process.
(B) experiment with new types of fabric defects.
(C) ensure the final product meets pre-determined criteria for performance, appearance, and durability.
(D) develop new fashion trends based on material performance.

Direction : Please read the following source carefully.

Maintaining the longevity and appearance of clothing are heavily dependent on proper care and maintenance, a process guided by scientific principles and standardized information. The principles of washing involve a combination of three key actions: chemical action from laundry agents, thermal action from water temperature, and mechanical action from the washing machine's agitation or manual rubbing. The choice and use of laundry agents are critical. Detergents are the primary cleaning agents that remove soil. Bleaches, either chlorine or oxygen-based, are used for whitening and stain removal but must be used carefully to avoid fabric damage. Fabric softeners impart a soft feel and reduce static cling. Understanding the garment's fiber content and construction is essential for selecting the appropriate washing method. To facilitate this, standardized care labels and symbols are affixed to garments, providing internationally recognized instructions for washing, bleaching, drying, ironing, and dry cleaning. Proper storage is another crucial aspect of maintenance; clothing should be stored in a clean, dry, and dark environment to prevent damage from moisture, insects, and sunlight. For long-term storage, items should be cleaned first, as stains can set over time and attract pests. Following these principles and correctly interpreting care symbols ensures that garments are maintained effectively, preserving their quality and extending their usable life.

Based on the above source, attempt the following five questions.

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300. The passage infers that the application of formal research methods in the apparel industry leads to:

(A) decisions and innovations that are based on evidence and analysis.

(B) a greater reliance on intuition and subjective designer preference.

(C) a reduction in the scope of possible innovations.

(D) a focus on historical research to the exclusion of all other types.

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They compromise the strength and visual quality of the finished garment.

18. (B) P-3, Q-4, R-2, S-1
Laundry agents perform specific functions to maintain textile quality during cleaning. Detergents are primarily responsible for removing soil and stains through surfactant action. Chlorine bleach acts as a powerful whitening agent for cotton fabrics. Fabric softeners reduce static cling and improve the tactile feel of garments. Finally, starch is utilized to provide necessary stiffness and body to specific apparel items, ensuring a crisp and professional appearance.

19. (C) Infants and children
Safety regulations mandate the use of flame-retardant fabrics in sleepwear specifically designed for infants and children. This requirement is intended to reduce the risk of burn injuries in the event of accidental exposure to fire. Young children may not have the physical or cognitive ability to react quickly to such hazards. Therefore, utilizing treated materials or specific fabric constructions that resist ignition is a critical protective measure in children's apparel.

20. (D) Having the subject stand in a natural, erect posture
Establishing a correct posture is the essential first step in the body measurement procedure. The subject must stand naturally and erect to ensure that the measurements reflect their true physical dimensions. Any slouching or artificial stiffening can lead to inaccurate data, resulting in a poorly fitted garment. Maintaining this consistent position throughout the process allows the pattern maker to account for the body's natural curves and proportions.

21. (C) Moving the fabric forward under the needle
The feed dog is a set of metal teeth located under the presser foot of a sewing machine. Its primary function is to grip the underside of the fabric and pull it forward after each stitch is formed. This rhythmic movement ensures that stitches are evenly spaced and that the material progresses steadily through the machine. Proper coordination between the feed dog and needle is essential for consistent seam quality.

22. (C) Statement I is true, but Statement II is false.
Proportion is a design principle focusing on the size relationship between various garment parts and the whole. This concept ensures a balanced and aesthetically pleasing look. However, the principle of emphasis suggests that a garment should have a single dominant focal point to draw attention effectively. Having multiple competing focal points creates visual confusion and lacks harmony. Therefore, professional design typically prioritizes one area of interest over several scattered elements.

23. (D) Fashion moves horizontally within similar social strata.
The trickle-across theory suggests that fashion trends spread horizontally among individuals within the same social or economic group simultaneously. This diffusion is facilitated by modern mass media and rapid manufacturing, allowing new styles to be available at various price points at once. It rejects the idea that fashion must move vertically between different classes. Instead, influencers within each social stratum drive the adoption of new looks across their respective peers.

24. (A) Dart manipulation
Dart manipulation is a core technique in flat pattern making used to change the location or appearance of darts. This process allows a single large dart to be relocated or divided into multiple smaller darts, gathers, or pleats without changing the garment's fit. It provides designers with endless possibilities for creating diverse silhouettes and style lines. This technique ensures that the three-dimensional shaping required for the body is maintained creatively.

25. (B) 2, 1, 3, 4
The manufacturing of apparel follows a logical chronological sequence to ensure efficiency and quality. First, spreading involves laying out multiple plies of fabric. This is followed by cutting, where the pattern pieces are precisely separated from the fabric layers. Next, sewing involves assembling these pieces into a complete garment. Finally, finishing and pressing are conducted to remove wrinkles and prepare the item for the market. This sequence is standard.

26. (A) Pilling

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9. (C) Conformity to peer group styles and trends
During adolescence, clothing choices are heavily influenced by the psychological need for social acceptance and identity formation. Conformity to the styles and trends favored by their peer groups often takes precedence over functional factors like durability or cost. Apparel serves as a visual language for teenagers to express belonging and status within their social circles. Consequently, adolescents prioritize wearing brands or silhouettes currently trending.

10. (A) Hypothesis
A hypothesis is a formal, tentative statement that predicts a specific relationship between variables in a research study. It provides a focused direction for investigation and is formulated based on existing theories or observations. Researchers test this statement through data collection and analysis to determine its validity. In apparel research, a hypothesis might predict how fabric weight affects the perceived comfort level of specific garments.

11. (A) Both A and R are true and R is the correct explanation of A.
Precision in taking body measurements is the foundational requirement for successful custom garment construction. When measurements are inaccurate, the resulting pattern will not conform to the wearer's physical dimensions, leading to functional and aesthetic issues. Significant alterations are often required to correct these errors, wasting time and resources. Therefore, the accuracy of initial measurements directly dictates the final quality and fit of the apparel.

12. (B) Overcasting foot
An overcasting foot is a specialized sewing machine attachment used to finish raw fabric edges. It works by wrapping thread around the edge of the material, which effectively prevents the yarns from unraveling or fraying. This tool is especially helpful for fabrics that shed easily or for achieving a professional look without using a serger. It ensures the longevity and structural integrity of the garment's internal seams.

13. (C) Line
Line is a powerful element of design used to influence visual perception and create optical illusions. Vertical stripes on a garment lead the viewer's eye in an upward direction, which creates the impression of increased height and a slimmer silhouette. This application demonstrates how structural or decorative lines can alter the perceived proportions of the human figure. Designers use these visual cues to enhance or camouflage specific body characteristics.

14. (D) 1, 2, 3 and 4
Understanding fashion terminology is essential for professionals in the apparel industry. A style represents a distinctive mode of presentation, while fashion is a style currently accepted by the majority. Fads are characterized by their extreme but short-lived popularity among small groups. Classics are enduring styles that remain in fashion for extended periods. All these definitions accurately categorize the various stages and types of fashion adoption.

15. (A) It is a basic, close-fitting pattern used as a template for creating new designs.
A sloper or block pattern is a foundational tool in flat pattern making that represents the basic dimensions of the human figure. It contains minimal ease and no decorative features, serving as a starting point for developing diverse garment designs. By manipulating the darts and style lines of this template, designers can create complex patterns while ensuring a consistent fit. It streamlines the design process significantly.

16. (B) Marker making
Marker making is the technical process of arranging pattern pieces on a long sheet of paper or digitally to optimize fabric utilization. The primary goal is to minimize material waste by fitting the pieces as closely as possible within the fabric width. This stage is crucial in mass production because even small improvements in efficiency can lead to significant cost savings. The completed marker guides the cutting process.

17. (B) Skipped stitches
Skipped stitches are classified as a garment defect because they occur during the sewing and assembly stage of manufacturing. This issue typically arises from incorrect machine settings, needle problems, or improper thread tension. Unlike fabric defects like neps or slubs, which are inherent to the material itself, skipped stitches represent a failure in the construction process.

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process is fundamental to pattern making, the claim that all darts must terminate at the bust point is incorrect. In professional pattern drafting, darts are often backed away from the apex to create a softer, more natural fit. Terminating darts exactly at the bust point can create an unflattering, pointed appearance in the garment.

35. (C) The area between the stitching line and the cut edge of the fabric.
Seam allowance is the extra fabric provided beyond the actual stitching line of a pattern piece. This space is necessary to ensure that the garment can be securely assembled without the fabric unraveling at the edges. Standard allowances vary depending on the type of seam and fabric being used. It also provides a small margin for minor fitting adjustments. Proper management of these allowances is critical for achieving clean and professional garment finishes.

36. (D) Retain its original size and shape after washing and use.
Dimensional stability is a vital quality parameter that determines how well a fabric maintains its proportions over time. It specifically measures the material's resistance to shrinking or stretching after being subjected to laundering and regular wear. High dimensional stability ensures that a garment continues to fit the wearer correctly throughout its life. Fabrics with poor stability can become distorted or unwearable, which significantly reduces the value and utility of the finished apparel.

37. (C) Dry-cleaning instructions
A circle is the international care label symbol designated for professional textile care, specifically dry-cleaning. This symbol informs the consumer and the professional cleaner that the garment requires specialized chemical solvents instead of water-based laundering. Additional markings inside or around the circle may provide more detailed instructions regarding the specific types of solvents or temperatures permitted. Following this symbol is crucial for protecting delicate fabrics that are prone to damage from traditional washing.

38. (B) Ease of dressing and undressing, and comfort
When designing for the elderly, functionality and comfort are the primary considerations. Changes in physical mobility and dexterity often make standard fasteners like small buttons difficult to manage. Therefore, apparel should incorporate features like front closures, elastic waistbands, and easy-to-grip zippers. Additionally, soft, non-irritating fabrics help protect aging skin. Prioritizing these ergonomic needs ensures that clothing remains practical and enhances the wearer's independence and daily quality of life during their later years.

39. (D) Experimental research
Experimental research is a rigorous scientific method used to establish cause-and-effect relationships. It involves the deliberate manipulation of an independent variable to observe its specific impact on a dependent variable. This process is conducted under controlled conditions to minimize the influence of outside factors. In the apparel industry, this might involve testing how different finishing treatments affect the flame resistance of a fabric, providing objective data for safety and performance standards.

40. (A) Soft and rounded with a shorter stature
An endomorph figure type is characterized by a soft, rounded body composition and a tendency towards a shorter, stockier build. This anthropometric classification helps designers understand the specific fit requirements and style lines that best suit this body shape. Individuals with this figure often have a higher proportion of body fat and less muscle definition compared to other types. Recognizing these physical traits is essential for creating garments that provide both comfort and aesthetic balance.

41. (C) Looper
A standard lockstitch sewing machine utilizes a needle and a bobbin to create a secure stitch. Key components include the needle bar for holding the needle and the take-up lever for controlling thread flow. The feed dog moves the fabric forward. However, a looper is a specialized part found in sergers or chainstitch machines, not standard lockstitch models. The looper works by carrying thread to form loops, which is a different mechanism from the bobbin-based lockstitch.

42. (A) Daily pleasing combination of all elements and principles of design.

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Pilling is a fabric defect characterized by the formation of small, fuzzy balls of fiber on the surface. This occurs when loose fibers migrate to the textile surface and become entangled due to friction or abrasion during wear and laundering. It is most common in fabrics made from staple fibers or blends of natural and synthetic yarns. Pilling negatively affects the appearance and tactile comfort of the garment over time.

27. (D) Not be bleached
Care labels use standardized symbols to communicate essential maintenance instructions to consumers. A triangle symbol specifically represents bleaching instructions. When a triangle is marked with a large cross over it, it indicates that the garment should never be treated with any type of bleach. Using bleach on such items could cause permanent damage, such as fiber degradation or severe color loss. Adhering to this instruction is vital for garment longevity.

28. (B) Synthetic microfibers like polyester
Active sportswear requires materials that effectively manage moisture and body temperature during physical exertion. Synthetic microfibers, particularly polyester, are engineered with moisture-wicking properties that pull sweat away from the skin to the fabric's surface for rapid evaporation. Unlike cotton, which absorbs and holds moisture, these synthetic fabrics stay dry and lightweight. This enhances the wearer's performance and comfort by preventing the garment from becoming heavy, damp, and chilled.

29. (C) There is no statistically significant effect or relationship.
A null hypothesis serves as a starting point for statistical testing in research. It assumes that there is no real difference or relationship between the variables being studied. Researchers attempt to provide evidence that contradicts this assumption. If the collected data shows a significant result, the null hypothesis is rejected in favor of an alternative explanation. This objective approach ensures that findings are not merely the result of random chance or sampling error.

30. (D) To ensure proper fit and comfort
Accurate body measurements are the most critical factor in creating apparel that fits the wearer correctly. These measurements allow designers to draft patterns that accommodate the specific curves and proportions of the human figure. Proper fit directly influences the comfort level of the garment and the confidence of the individual wearing it. Without precise data, clothing may restrict movement or appear unflattering, failing to meet basic functional and aesthetic requirements.

31. (A) 1, 2, 3, and 4 only
Pattern making requires a specific set of tools designed for precision and marking. Measuring tapes provide necessary dimensions, while L-squares and fashion rulers help in drafting accurate lines and curves. Tracing wheels are essential for transferring pattern markings onto paper or fabric. Shears are needed to cut the final patterns. Although a sewing machine is vital for garment construction, it is not utilized during the actual drafting and development of patterns.

32. (B) Texture
Texture is the design element that describes the surface quality and tactile nature of a fabric. It can be perceived through both touch and sight, ranging from smooth and silky to rough and bulky. In apparel design, texture influences how light reflects off a garment and how the material drapes over the body. Designers select specific textures to create visual interest, convey a particular mood, or enhance the overall aesthetic of a collection.

33. (B) Fashion innovators
Fashion innovators are the first group of consumers to adopt a new style at the beginning of its life cycle. These individuals are typically risk-takers who seek uniqueness and are willing to pay premium prices for the latest designs. Their adoption of a trend provides the initial visibility needed for it to spread to a wider audience. They are crucial in establishing the viability and desirability of new fashion concepts in the market.

34. (C) A is true but R is false.
Dart manipulation is a versatile technique that enables designers to transform flat patterns into various three-dimensional styles. While this

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identity.

294. It can be inferred from the text that a key difference between selecting fabrics for workwear and evening wear is that:
(A) workwear is always made of natural fibers while evening wear is always synthetic.
(B) workwear prioritizes function while evening wear prioritizes aesthetics.
(C) workwear requires breathability while evening wear does not.
(D) workwear selection is for adults while evening wear is for adolescents.

295. The need for adaptive clothing with features like simple fastenings is most associated with which age group mentioned in the source?
(A) Infants
(B) Children
(C) The elderly
(D) Adolescents

Direction : Please read the following source carefully.

Research methods form a systematic framework for inquiry and knowledge creation within the field of apparel design, extending its scope from creative practice to scientific investigation. A cornerstone of empirical research is hypothesis testing, a process used to determine the validity of a proposed explanation for a phenomenon. A hypothesis is a specific, testable prediction about the relationship between variables. The testing process involves collecting and analyzing data to see if it supports or refutes the hypothesis. Research in apparel can be broadly categorized into different types based on its objective. Descriptive research, for example, aims to accurately portray the characteristics of a population or phenomenon, such as documenting current fashion trends or consumer preferences. Experimental research, on the other hand, involves manipulating an independent variable to observe its effect on a dependent variable, which could be used to test the performance of a new textile finish or the effectiveness of a new sewing technique. The scope of research methods in apparel is vast, encompassing areas like material science to analyze fabric properties, consumer behavior studies to inform marketing strategies, historical research to understand sartorial evolution, and ergonomic studies to improve garment comfort and functionality. This rigorous approach allows the industry to innovate, solve problems, and adapt to changing market demands based on evidence rather than intuition alone.

Based on the above source, attempt the following five questions.

296. What is the primary purpose of hypothesis testing in research?
(A) To create a broad, non-specific question about a topic.
(B) To describe the characteristics of a population without analysis.
(C) To document the history of apparel design anecdotally.
(D) To systematically determine the validity of a testable prediction.

297. A study that aims to document and report the current clothing preferences of urban youth would be classified as which type of research?
(A) Descriptive research
(B) Experimental research
(C) Historical research
(D) Material science research

298. According to the passage, what is a defining feature of experimental research?
(A) It focuses solely on past events and their impact on clothing.
(B) It involves the manipulation of a variable to observe its effect on another.
(C) It describes consumer behavior without proposing any relationships.
(D) It relies on intuition and creative practice instead of data.

299. Based on the source, which of the following scenarios best exemplifies the application of experimental research in apparel?
(A) A company surveys 1000 customers to find out their favorite colors for the season.
(B) A researcher treats one batch of cotton fabric with a new finish and leaves another untreated to compare their water-repellency.
(C) A fashion historian writes a book about 1920s dress styles.
(D) A brand manager creates a report on the top-selling items from the previous quarter.

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Harmony is the design principle achieved when all elements and other principles work together to create a unified and aesthetically pleasing whole. It ensures that the lines, colors, textures, and proportions of a garment feel integrated and balanced. When a design possesses harmony, no single part overwhelms the others, resulting in a sense of completeness. This principle is vital for creating sophisticated and professional apparel that is visually appealing and communicates a clear theme.

43. (B) P-3, Q-1, R-2, S-4
Fashion diffusion theories explain how new styles spread through society. The trickle-down theory describes fashions descending from the elite to the masses. Conversely, the trickle-up theory explains how trends from subcultures or lower-income groups influence high fashion. The trickle-across theory suggests that trends move horizontally within similar social strata. Finally, the collective selection theory proposes that fashion emerges as a social expression shared by many people with similar tastes, rather than just moving between classes.

44. (B) Grading
Grading is the technical process of increasing or decreasing the size of a base pattern to create a range of sizes. This ensures that the garment maintains its original fit and design proportions across various body dimensions. It involves systematically moving key points of the pattern according to specific measurement increments. Unlike simple alterations for an individual, grading is essential for mass production, allowing manufacturers to cater to a diverse consumer base with standardized sizing.

45. (C) To allow the garment to fit the curve of the body, often at the shoulders or hips.
A yoke is a shaped pattern piece that forms part of a garment, typically located around the shoulders or hips. Its primary structural purpose is to provide support for the rest of the garment while allowing it to conform to the body's curves. By utilizing a yoke, designers can incorporate gathers or pleats below it to add fullness without adding bulk at the top. This element is both functional for fit and frequently used as a decorative feature.

46. (D) A barre
A barre is a fabric defect characterized by continuous stripes or bands running in the horizontal or filling-wise direction. These marks result from inconsistencies in the yarn, such as variations in thickness, twist, or dye affinity. In woven or knitted textiles, these imperfections create an uneven appearance that can significantly degrade the quality of the final garment. Manufacturers must carefully inspect fabric for barre marks to ensure a uniform surface and professional finish in their products.

47. (A) To lift and suspend dirt and oil away from the fabric
Surfactants are the active cleaning agents found in laundry detergents that facilitate the removal of soil. They work by reducing the surface tension of water, allowing it to penetrate the fabric fibers more effectively. These molecules have a dual nature, with one end attracting water and the other attracting oils and dirt. This unique structure allows them to lift contaminants away from the textile and keep them suspended in the water, preventing redeposition onto the clothes.

48. (B) Durability and tear strength
Workwear for physically demanding jobs must prioritize functional performance and longevity. High durability and tear strength are the most essential properties, as the clothing is subjected to intense mechanical stress, abrasion, and potential snagging. Fabrics like heavy-duty cotton duck or reinforced synthetic blends are often chosen for these applications. These materials protect the worker and ensure that the garment does not fail prematurely. Focusing on these strengths is more critical than aesthetic factors like luster or drape.

49. (B) Vertical is taken perpendicular to the floor; circumference is taken around a body part.
Understanding the direction of body measurements is essential for accurate pattern making. Vertical measurements, such as total height or waist-to-floor length, are taken in an up-and-down direction perpendicular to the ground. In contrast, circumference measurements, like the bust, waist, or hip, are taken by wrapping the tape measure around a specific body part. Both types of data are necessary to create a three-dimensional representation of the human figure, ensuring the garment fits in both length and width.

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50. (A) Sewing seams, finishing edges, and trimming excess fabric simultaneously.
A serger, also known as an overlock machine, is a highly efficient tool used in both industrial and domestic sewing. Its unique mechanism allows it to perform three functions in a single pass: joining fabric layers with a durable seam, finishing raw edges to prevent fraying, and trimming off excess seam allowance. This creates a professional, clean finish inside garments. Sergers use multiple threads to create stretchable seams, making them indispensable for construction involving knitted and stretch fabrics.

51. (B) 2 and 4 only
The elements of design are the basic components used to build a visual composition. Line and color are fundamental elements that designers manipulate to create aesthetic interest and structural form. Conversely, balance and rhythm are classified as principles of design. Principles are the rules or guidelines that govern how the elements are arranged and combined to achieve a successful result. Distinguishing between elements and principles is vital for analyzing and creating effective apparel and textile designs.

52. (D) A steep decline in popularity and the style being rejected by most consumers.
Obsolescence is the final stage of the fashion cycle, occurring when a style is no longer considered fashionable or desirable by the general public. During this phase, consumer interest drops sharply, and the item is often removed from retail stores or sold at deep discounts. The style is eventually rejected even by those who were late adopters. This stage marks the end of the trend's commercial life, making way for new fashions to enter the cycle.

53. (C) Perfecting and blending seam lines and curves after an alteration.
Truing is a technical step in pattern making that involves refining and smoothing all lines and curves. This process is especially important after making alterations, such as moving a dart or changing a seam, to ensure that adjacent pattern pieces will match perfectly when sewn together. By truing the pattern, the designer checks that seam lengths are equal and that transitions between lines are fluid. This precision prevents construction issues and ensures a high-quality finished garment fit.

54. (B) An opening or slit in a garment, often used for closures like buttons or zippers.
A placket is a finished opening in a garment that allows it to be put on and taken off easily. These features are most commonly found at the neckline, waistline, or sleeve cuffs of apparel. Plackets provide a reinforced area for attaching closures such as buttons, snaps, or zippers. They are constructed using separate fabric facings or bands to ensure the edges are neat and durable. Beyond their functional necessity, plackets can also serve as a prominent design element.

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55. (A) Both Statement I and Statement II are true.
Quality management in apparel manufacturing relies on established standards and detailed specifications. Standards define the general level of excellence and performance expected for all products. Specifications, on the other hand, provide the precise technical details for a specific garment, including measurements, material types, and construction steps. Both are essential for ensuring consistency and meeting consumer expectations. Adhering to these guidelines throughout the production process minimizes defects and ensures that the final product meets the intended design goals.

56. (A) A 'color-safe' bleach suitable for most washable fabrics.
Oxygen-based bleaches are popular laundry agents known for being gentler than traditional chlorine bleach. These products work by releasing oxygen to break down stains and brighten fabrics without stripping away the dye. Because of this milder chemical action, they are considered color-safe and can be used on a wider variety of washable materials, including many synthetics and colored cottons. They are an effective choice for regular maintenance while minimizing the risk of permanent damage or fading to garments.

57. (C) Toddlers and young children
Toddlers and young children are in a developmental stage characterized by constant physical activity and exploration. Clothing for this age group must accommodate a wide range of motion to allow for running, jumping, and climbing without restriction. Fabrics with stretch

and garments with relaxed fits or gussets are ideal for meeting these ergonomic needs. Prioritizing freedom of movement not only ensures the child's comfort but also supports their physical development and active lifestyle throughout their early years.

58. (A) The boundaries and extent of the research, including its limitations.
The scope of a research study defines the specific parameters and limits within which the investigation is conducted. It outlines exactly what the research will cover, such as the target population, geographic area, and time frame. Simultaneously, it identifies what will be excluded and acknowledges the inherent limitations of the study. Clearly defining the scope is essential for maintaining focus and ensuring that the research objectives are achievable within the available resources and time constraints.

59. (D) Waist circumference
The waist circumference is a fundamental measurement required for the construction of lower-body garments like trousers and skirts. It determines the size of the waistband and ensures that the garment stays securely and comfortably in place on the body. This measurement is taken at the natural waistline, which is typically the narrowest part of the torso. Accurate waist data is essential for achieving a proper fit and preventing the garment from being too tight or too loose.

60. (A) Both A and R are true and R is the correct explanation of A.
Industrial sewing machines are engineered for the rigorous demands of mass production, offering significantly higher speeds and greater durability than domestic models. Their specialized design allows them to perform specific tasks, such as creating a lockstitch or overlock seam, with extreme efficiency and consistency. This specialization is a key factor in their high performance, as each machine is optimized for a particular function. Consequently, large factories utilize a variety of these specialized machines to streamline the entire garment assembly process.

61. (C) The overall outline or shape of a garment.
A silhouette represents the external shape or outline of a garment when viewed from a distance, regardless of internal details. It is a fundamental element of fashion that changes over time, often defining the look of a specific era. Common silhouettes include the A-line, hourglass, and tubular shapes. Designers use silhouettes to create visual impact and influence how the wearer's body is perceived. It serves as the primary structural foundation upon which all other design details are added.

62. (D) Fashion forecasting
Fashion forecasting is a specialized field that involves analyzing current data to predict future trends in the industry. Forecasters look at various influences, including social changes, economic conditions, and cultural events, to anticipate which colors, fabrics, and silhouettes will be popular in upcoming seasons. This information is vital for designers and retailers, as it allows them to plan their collections and inventories well in advance. Accurate forecasting helps businesses stay competitive and meet evolving consumer preferences.

63. (A) 3, 2, 1, 4, 5
The fashion cycle follows a predictable chronological sequence of five distinct stages. It begins with the introduction, where a new style is first seen. This is followed by the rise, as the style gains wider acceptance. The peak represents the height of its popularity and availability. Subsequently, the style enters the decline stage as interest wanes. Finally, obsolescence occurs when the fashion is no longer desired by consumers. Understanding this progression is essential for effective fashion merchandising.

64. (B) Sheer, lightweight fabrics where raw edges would be visible.
A French seam is a high-quality finishing technique where the raw edges of the fabric are completely enclosed within the seam itself. This creates a neat, clean appearance on both the inside and outside of the garment. It is particularly well-suited for sheer or lightweight fabrics, such as silk or chiffon, where traditional seam finishes would be unsightly or visible through the material. While more time-consuming to construct, French seams provide excellent durability and a professional, high-end finish.

65. (B) Crocking

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Ease of care is a critical factor for many consumers when selecting clothing. It refers to how much time and effort is required to clean and maintain a garment, such as whether it is machine washable, requires ironing, or must be dry-cleaned. For busy individuals, parents of young children, or the elderly, fabrics that are easy to launder and resistant to wrinkling are highly valued. Prioritizing ease of care enhances the practicality and overall satisfaction with the apparel.

96. (B) Historical research
Historical research in the field of apparel involves the systematic study and interpretation of past events, styles, and cultural practices related to clothing. By analyzing primary sources like museum artifacts, vintage photographs, and historical texts, researchers can trace the evolution of specific garments, such as the saree, over time. This type of investigation provides valuable insights into how social, economic, and technological factors have influenced fashion history. It helps document cultural heritage and can provide inspiration for contemporary designers and fashion scholars.

97. (B) Bust and hip measurements that are roughly equal, with a well-defined waist.
The hourglass figure is a classic body type characterized by balanced proportions between the upper and lower body. Specifically, the bust and hip measurements are nearly equal, while the waistline is significantly narrower and well-defined. This figure is often considered aesthetically balanced and is a common reference point for traditional garment sizing and styling. Designers use various techniques, such as tailoring and the placement of seams, to accentuate this shape, which is highly valued in many fashion contexts and historical eras.

98. (A) Reinforce stress points like belt loops and pocket corners.
A bartack is a specialized, dense zig-zag stitch used in garment manufacturing to provide extra strength to areas subjected to high stress. These reinforcement stitches are commonly found at the ends of pocket openings, at the base of belt loops, and near the bottom of fly openings on trousers. By distributing the mechanical pull over a wider area, bartacks prevent the fabric from tearing and the seams from unraveling. They are essential for ensuring the durability and longevity of frequently used apparel.

99. (C) Movement or Rhythm
The principle of movement, or rhythm, in design refers to the path the viewer's eye takes when looking at a garment. It is created through the strategic arrangement of elements like line, color, and shape, which lead the eye from one part of the design to another. Effective movement can create a sense of energy, direct attention to a focal point, and provide overall unity to the composition. It ensures that the apparel is visually engaging and that the entire design is experienced as a whole.

100. (A) 2, 4, 1, 3
The diffusion of fashion follows a chronological sequence among different groups of consumers. It begins with innovators, who are the very first to adopt a new style. They are followed by early adopters, who help the trend gain wider visibility and acceptance. Next is the early majority, as the style becomes a mainstream fashion. Finally, laggards adopt the trend at the very end of its cycle. Understanding this sequence is vital for marketers and retailers to effectively time their product launches and promotions.

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101. (C) It allows the designer to see the fabric's behavior and fit in three dimensions.
Draping offers a unique advantage in pattern making by allowing designers to work directly with fabric on a three-dimensional form. This method provides immediate visual feedback on how a specific textile will hang, fold, and conform to the body's curves. It is especially useful for creating fluid and complex designs that are difficult to visualize using two-dimensional drafting. By seeing the fabric's behavior in real-time, designers can make intuitive adjustments to the fit and silhouette, resulting in more creative and technically accurate garments.

102. (A) Computer-Aided Design and Computer-Aided Manufacturing
CAD and CAM systems have revolutionized the apparel industry by automating many stages of production. Computer-Aided Design (CAD) is used for creating digital sketches, developing patterns, and performing grading and marker making with high precision. Computer-Aided

ensures that the final garment is constructed with precision and fits correctly.

73. (C) Prototype or fit sample
A prototype or fit sample is an initial version of a garment created by the factory to test the design and fit before mass production. It allows the designer and production team to identify any issues with the pattern, construction, or fabric behavior. This sample is often made in a similar fabric and serves as a critical communication tool between the designer and the manufacturer. Approval of this sample is a necessary step before proceeding to final production stages.

74. (A) Incorrect thread tension or mismatched fabric layers during sewing.
Seam puckering is a common garment defect characterized by an uneven, wrinkled appearance along a stitched line. It most frequently occurs due to mechanical issues during the sewing process, such as excessive thread tension that pulls the fabric too tightly. Additionally, if two layers of fabric are not fed through the machine at the same rate, the resulting mismatch can cause visible puckers. Ensuring proper machine calibration and careful fabric handling are essential for achieving smooth, professional-looking seams.

75. (D) Hand washed only
The hand wash symbol, represented by a washtub with a hand, indicates that a garment is too delicate for a standard washing machine. Mechanical agitation and high-speed spinning in a machine can damage the fibers or distort the shape of such items. Hand washing allows for a gentler cleaning process using cool water and mild detergent. This method is typically required for delicate fabrics like silk, wool, and items with intricate embellishments to ensure they remain in good condition.

76. (B) Durability and washability
Children's play clothes must withstand frequent physical activity and regular laundering. Therefore, durability and washability are the most important considerations when selecting fabrics for this age group. Materials like cotton denim, jersey, and sturdy twills are ideal because they resist abrasion and can be cleaned easily in a washing machine. Prioritizing these functional properties ensures that the garments remain practical and maintain their appearance despite the rough and active nature of childhood play and exploration.

NODIA

77. (C) Descriptive research
Descriptive research is a method used to observe and describe the behavior or characteristics of a specific population without influencing them. In the context of apparel, this might involve conducting surveys to understand current consumer preferences for specific colors or styles. This type of research provides a clear "snapshot" of the market at a particular time. It is essential for identifying trends and gathering data that can inform design decisions and marketing strategies within the fashion industry.

78. (D) Center back length
The center back length is a critical vertical measurement used in pattern making for garments like shirts, jackets, and dresses. It is taken from the prominent bone at the base of the neck, known as the nape, straight down the spine to the natural waistline. This measurement ensures that the garment has the correct length and fits properly over the back of the torso. Accurate center back data is essential for maintaining the overall balance and proportions of the apparel.

79. (A) Help feed multiple or bulky layers of fabric evenly.
A walking foot is a specialized sewing machine attachment designed to improve fabric feeding. Unlike a standard presser foot, it has its own set of feed dogs on the top, which move in synchronization with the machine's lower feed dogs. This dual action ensures that all layers of fabric are moved through the machine at the same rate. It is particularly useful for sewing through bulky materials, multiple layers like quilts, or slippery fabrics that tend to shift during stitching.

80. (B) 2, 4, and 5 only
Principles of design are the fundamental rules that guide how the elements are used to create a successful garment. Proportion, emphasis, and balance are all recognized as key principles. They provide a framework for achieving aesthetic harmony and visual interest. In contrast, shape

Crocking is a quality defect where the dye from a fabric rubs off onto other surfaces, such as skin or other garments. This typically occurs due to excess dye remaining on the textile surface or poor dye fixation during the manufacturing process. It is often most noticeable with dark or intensely colored fabrics, especially when they are subjected to friction. Crocking can lead to unsightly staining and is a major concern for both manufacturers and consumers regarding garment performance and care.

66. (A) To repel moths and other pests
Proper storage of wool garments is essential to protect them from insect damage, particularly from clothes moths. These pests are attracted to animal fibers like wool and can eat holes in the fabric. Cedar blocks and lavender sachets are natural repellents that emit scents disliked by these insects, helping to deter them from infesting stored apparel. Using these traditional methods is a safe and effective way to preserve the integrity and longevity of valuable wool items over time.

67. (C) Upholstery
The term 'end use' refers to the final application or purpose for which a fabric is intended. Upholstery is a classic example of an end use, where specialized textiles are used to cover furniture like sofas and chairs. These fabrics must possess specific properties, such as high abrasion resistance and durability, to withstand the stresses of daily use. Identifying the intended end use is critical for manufacturers when selecting fibers, weaves, and finishes to ensure the material performs correctly.

68. (B) Mesomorph - Athletic and muscular build
Anthropometric classification systems use terms like mesomorph to describe specific body compositions. A mesomorph is characterized by an athletic, muscular build with well-defined proportions and a sturdy bone structure. This figure type typically has broader shoulders and a narrower waist, which influences how garments fit and drape. Understanding these primary body types—ectomorph, mesomorph, and endomorph—is essential for apparel designers and manufacturers when developing sizing standards and styles that cater to a wide range of physical forms.

69. (C) Coverstitch machine
A coverstitch machine is a specialized tool used primarily for hemming and topstitching knitted garments. It creates a professional finish that is flat, secure, and highly stretchable, which is essential for activewear and undergarments. The machine uses multiple needles and a looper to produce a row of parallel stitching on the top side and a decorative interlacing on the bottom. This unique stitch structure allows the seam to expand with the fabric without breaking, ensuring durability and comfort.

70. (B) Proportion
Proportion is a fundamental principle of design that governs the size relationship between individual parts and the garment as a whole. It involves the strategic division of space and the scaling of design elements, such as pockets, collars, and hemlines, to create a balanced look. Proper proportion ensures that the various components of an outfit appear integrated and aesthetically pleasing. Designers use this principle to enhance the wearer's figure and communicate a specific style or mood.

71. (D) Widespread economic depression
Fashion change is driven by various social, technological, and economic factors. While increased leisure time, higher education, and technology generally accelerate the adoption of new styles, a widespread economic depression typically has the opposite effect. During periods of severe financial hardship, consumers have less disposable income and tend to prioritize basic needs over new fashion. This leads to a stagnation in the fashion cycle, with people holding onto existing garments longer and manufacturers producing fewer innovative designs.

72. (A) P-3, Q-1, R-4, S-2
Standard markings and features are essential for accurate pattern making and garment assembly. The grainline indicates the correct orientation of the pattern on the fabric. Notches are small marks used to align corresponding pieces accurately during sewing. Seam allowance provides the necessary space between the stitching line and the raw edge. Darts are wedge-shaped folds used to create three-dimensional shaping for the body's curves. Correctly using these elements

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88. (A) Differences in typical body proportions and shapes, like bust and hip ratios.
Anthropometric differences between males and females necessitate the use of distinct pattern blocks. Men and women typically have different body proportions, particularly in the distribution of muscle and fat. For example, female blocks must account for the bust and a wider hip-to-waist ratio, whereas male blocks are often broader at the shoulders with a straighter torso. Using gender-specific blocks ensures that mass-produced garments fit the unique anatomical curves and structural requirements of each group, improving overall comfort and aesthetic appeal.

89. (A) Both A and R are true and R is the correct explanation of A.
Fashion illustration is an artistic form used to communicate the "feeling" and aesthetic of a garment. It frequently utilizes stylized figures, known as croquis, which feature exaggerated proportions like elongated legs to better showcase the drape and movement of the fabric. Unlike technical drawings, which must be anatomically precise for manufacturing, fashion illustrations are intended to inspire and convey a designer's vision. The artistic liberty taken with the human figure is a deliberate choice to enhance the visual appeal of the design.

90. (A) Intentionally designing products that will go out of style or wear out quickly.
Planned obsolescence is a business strategy where products are designed with a limited lifespan to encourage frequent replacement. In fashion, this can be achieved through both physical means, like using lower-quality materials that wear out quickly, and psychological means, by rapidly introducing new trends that make older styles feel outdated. This approach drives consumer demand and increases sales volume for manufacturers and retailers. However, it has also faced significant criticism for its negative environmental impact and for promoting unsustainable consumption patterns.

91. (D) Moving a dart from one position to another without cutting the pattern
The pivot method is a common dart manipulation technique used in flat pattern making. It allows a designer to relocate a dart to a new position on the pattern piece by rotating it around a central point, usually the apex. This is done without actually cutting into the paper pattern, making it a clean and efficient method. Relocating darts changes the style lines of the garment while maintaining the same three-dimensional fit, providing a versatile way to create new designs from a basic sloper.

92. (B) A layer of material fused or sewn to specific areas to add support or stability.
Interfacing is an essential internal component used in garment construction to provide structure and reinforcement. It is a separate layer of material, available in various weights and types, that is attached to the wrong side of the fabric. Common areas for interfacing include collars, cuffs, and waistbands, which require extra stability to maintain their shape. Interfacing can be either sewn-in or fusible, using heat to bond with the fabric. Its presence ensures a professional and durable finish.

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93. (C) Skipped stitches
Skipped stitches are a sewing defect where the machine fails to interlock the needle and bobbin/looper threads correctly, leaving a gap in the seam. When these occur in a continuous row, it can significantly weaken the structural integrity of the garment and lead to seam failure. This problem is often caused by a dull needle, incorrect needle size, or improper machine timing. It is a major quality concern during production, as it affects both the appearance and the durability of the finished apparel.

94. (D) Storing it flat, wrapped in acid-free tissue paper, in a box.
Heavily embellished garments like beaded gowns require special care for long-term storage to prevent damage. Hanging such items can cause the fabric to stretch and distort over time due to the significant weight of the beads and sequins. Storing the gown flat in a sturdy box, with layers of acid-free tissue paper to prevent snagging and chemical degradation, is the best method. This approach preserves the garment's shape and protects the delicate embellishments, ensuring it remains in excellent condition for years.

95. (A) The practicality of laundering and maintaining the garment for the wearer.

like raincoats or heavy jackets. Fashion designers must consider these environmental conditions to ensure their collections are functional and meet the basic physiological needs of their target consumers.

110. (A) Torso sloper
A torso sloper, also known as a basic bodice block, is a foundational pattern that covers the upper body from the shoulders to the waistline. It is drafted using specific body measurements and includes essential darts to provide a close, three-dimensional fit over the bust and back. This sloper serves as the starting point for developing many other garment types, such as blouses, jackets, and dresses. By manipulating the darts and style lines of this base template, designers can create a wide variety of fashionable and well-fitting designs.

111. (B) The unwinding and laying of multiple plies of fabric before cutting.
Fabric spreading is a critical pre-production stage in mass garment manufacturing. It involves laying out multiple layers, or plies, of fabric on a long cutting table in a flat and tension-free manner. The number of plies can range from a few to hundreds, depending on the production order. This process ensures that many garments can be cut simultaneously, which significantly increases efficiency. Proper spreading is essential for maintaining consistent grainline orientation and ensuring that all fabric pieces are cut accurately and uniformly for assembly.

112. (C) The name of the end consumer
A garment specification sheet, or "tech pack," is a detailed technical document used to communicate production requirements to manufacturers. It includes critical data such as stitch types, fabric weight (GSM), detailed measurements with tolerances, and trim information. This ensures that the final product meets the designer's standards. However, the name of an individual end consumer is not part of this technical document, as it is used for mass production intended for a general market rather than for personalized, bespoke tailoring for specific individuals.

113. (B) It will damage or dissolve the protein/synthetic fibers.
Chlorine bleach is a strong oxidizing agent that is highly effective for whitening cotton but can be extremely damaging to other fiber types. Protein-based fibers like silk and wool, as well as synthetic fibers like spandex, are chemically sensitive to chlorine. Exposure to this bleach can cause these materials to yellow, become brittle, or even dissolve completely. Therefore, it is critical to read care labels and avoid using chlorine bleach on these textiles to prevent irreversible damage and preserve the structural integrity and appearance of the garments.

114. (C) Professional, appropriate for the industry, and neat
Selecting appropriate clothing for a job interview is a key part of professional communication. The primary goal is to project an image of competence, respect, and professionalism. The outfit should be neat, well-fitted, and suitable for the specific industry and company culture. While individual style is important, extremes in fashion or overly casual attire can be distracting. Choosing a polished and appropriate look demonstrates that the candidate understands professional expectations and is serious about the opportunity, helping to create a positive and lasting first impression.

115. (A) Case study
A case study is a research method that focuses on an in-depth and detailed examination of a single subject, such as an individual person, a specific company, or a unique event. This approach allows researchers to explore complex issues in great detail within their real-life context. In the apparel industry, a case study might investigate the success of a particular brand's sustainability initiative or analyze the life cycle of a single iconic garment. It provides rich, qualitative data that can offer valuable insights and generate new theories for further investigation.

116. (B) The fullest part of the hip and buttocks.
Accuracy in taking hip measurements is essential for the proper fit of skirts and trousers. To obtain the correct data, the tape measure must be placed horizontally around the fullest part of the hips and buttocks. This ensures that the garment will have enough ease to accommodate the largest part of the lower torso. Improper placement, such as taking the measurement too high or too

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Manufacturing (CAM) then uses these digital files to control automated machinery, such as fabric cutters and sewing systems. The integration of these technologies significantly increases production speed, reduces material waste, and improves the overall accuracy and consistency of mass-produced garments in a global market.

103. (C) The stitches are visible from the outside when the seam is pulled.
Seam grin is a quality defect that occurs when the stitches of a seam are visible from the right side of the garment, especially when tension is applied. This problem is typically caused by insufficient thread tension or by using a stitch that is too loose for the fabric type. Seam grin not only looks unprofessional but can also indicate a weak seam that is prone to failure. Manufacturers must monitor and adjust machine settings carefully to ensure that seams are secure and that the stitches remain hidden within the fabric layers.

104. (C) Steaming
Steaming is a highly effective, non-chemical method for removing wrinkles from garments. It works by using hot water vapor to relax the fibers of the fabric, allowing them to return to their original, smooth state. Unlike traditional ironing, steaming does not involve direct contact with a hot metal surface, making it safer for delicate fabrics and complex garment shapes. It is widely used in retail environments and homes to quickly refresh apparel, improve its appearance, and maintain a professional look without the risk of scorching or flattening textures.

105. (C) Raincoats
Fabric selection is primarily driven by the intended end use and the specific performance requirements of the garment. High water repellency is a critical property for raincoats, as these items are designed to protect the wearer from external moisture. These fabrics are often treated with special coatings or finishes that cause water to bead up and roll off the surface rather than being absorbed. This ensures that the wearer stays dry and comfortable even in wet conditions, fulfilling the primary functional goal of protective outdoor apparel.

106. (C) Wider hips and thighs compared to the bust and shoulder area.
The pear figure, also known as the triangle shape, is a common body type characterized by a narrower upper body and wider lower body. Specifically, the hips and thighs are more prominent and have a larger circumference than the bust and shoulders. This anthropometric profile requires specific styling and tailoring approaches, such as drawing attention to the shoulders or using A-line silhouettes, to create a more balanced visual appearance. Understanding this body shape is essential for providing flattering and comfortable clothing options for a significant portion of the population.

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107. (B) A ruffler or gathering foot
A ruffler or gathering foot is a specialized sewing machine attachment used to create consistent pleats or ruffles in fabric. It works by mechanically folding a small amount of fabric into a tuck before each stitch is made, effectively reducing the length of the material and creating fullness. This tool allows for the rapid and precise creation of decorative elements, which would be very time-consuming to do by hand. It is widely used in making children's clothing, home textiles, and various fashion garments requiring ruffled details.

108. (D) 1, 2, 3 and 4
Principles of design are rules that govern how elements like color and line are arranged to create effective apparel. Symmetrical balance provides a formal, stable look, while asymmetrical balance offers a more dynamic, informal feeling. Rhythm can be established through gradation, and emphasis is achieved by creating a clear focal point. These principles work together to ensure that a garment is visually balanced, engaging, and communicates a clear theme. All of the provided statements accurately describe how these principles are applied in professional garment design.

109. (A) Climate
Climate is a major environmental factor that fundamentally influences fashion choices and the textile industry. It dictates the types of fibers and fabrics that are practical, such as breathable cotton for hot environments or insulating wool for cold ones. Additionally, climate affects the silhouettes and layering of garments, with regional weather patterns determining the need for specific items

and texture are classified as elements of design. Elements are the basic tools or "ingredients" that designers work with, while principles describe the ways in which those tools are organized and combined within a composition.

81. (B) Laggards
Laggards are the final group of consumers to adopt a new fashion trend, often doing so only when the style has reached the end of its cycle and is widely available at very low prices. These individuals are typically resistant to change and do not prioritize being trendy or fashionable. By the time laggards adopt a style, it is often already being replaced by newer trends. Understanding this group is important for retailers when managing end-of-season inventory and clearance sales.

82. (A) Slashing the pattern between key points and spreading the pieces apart.
Lengthening a pattern piece correctly requires maintaining its original shape and proportions. The standard method involves slashing the pattern horizontally at a designated "lengthen or shorten" line, then spreading the two pieces apart by the required amount. A piece of paper is then taped behind the gap to secure the new length. This technique ensures that the width of the pattern and the shape of the seams remain consistent, which is more accurate than simply adding length at the hem.

83. (C) Bundling
Bundling is a critical logistical step in the apparel manufacturing process that occurs after cutting. It involves grouping all the fabric pieces for a specific number of garments together, along with any necessary trims and labels. These bundles are then moved to the sewing line for assembly. Bundling ensures that all the correct components are available for the sewing operators and helps track production progress through the factory. This organized approach is essential for maintaining efficiency in high-volume garment manufacturing.

84. (D) Whether the fabric's color will bleed or fade during laundering
Colorfastness to washing is a vital quality test that evaluates how well a fabric retains its color during cleaning. It measures whether the dyes will bleed into the wash water or fade significantly after multiple laundering cycles. This property is crucial for ensuring that a garment maintains its original appearance and does not damage other items in the same wash load. Factors like dye type, fiber content, and laundering temperature all influence the colorfastness performance of a textile material.

85. (C) Do not iron
Care symbols are designed to be universally understood, providing clear instructions for garment maintenance. An iron symbol represents ironing instructions, and a large cross placed over it indicates that the item should not be ironed. This instruction is typical for fabrics that are extremely heat-sensitive, such as certain synthetics or those with delicate surface finishes, which could melt or be permanently damaged by heat. Adhering to this warning is essential for preserving the garment's original texture, shape, and overall integrity.

86. (B) Good drape and luster
Formal evening wear is designed to create a sense of elegance and luxury. Therefore, fabrics with excellent drape and a subtle or high luster are highly favored for these garments. Drape refers to how the fabric hangs and conforms to the body, which is essential for achieving fluid, sophisticated silhouettes. Luster describes the way light reflects off the fabric's surface, adding visual depth and a premium feel. Materials like silk satin, chiffon, and velvet are common choices that embody these desired aesthetic qualities.

87. (D) There is no significant difference in the durability of cotton and polyester t-shirts.
A null hypothesis is a statement used in research to assume that no real difference or relationship exists between two variables. It provides a baseline for statistical testing. In the context of apparel durability, the null hypothesis would state that there is no measurable difference between the performance of cotton and polyester fabrics. Researchers then collect data to see if they can find enough evidence to reject this assumption. This objective approach ensures that any conclusions reached are supported by rigorous scientific analysis.

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low, will result in a garment that is either too tight or unflattering. This measurement is a key anthropometric data point in pattern making.

117. (B) Form the stitch by providing the lower thread.
The bobbin is a small spool located in the lower part of a sewing machine that provides the second thread needed to form a lockstitch. As the needle descends and carries the upper thread through the fabric, the hook mechanism picks up the loop and carries it around the bobbin. This interlocks the two threads, creating a secure and durable stitch. Proper tensioning and winding of the bobbin are essential for achieving consistent stitch quality and preventing problems like puckering or bird-nesting on the underside of the fabric.

118. (A) P-3, Q-4, R-1, S-2
Understanding garment components and their functions is essential for apparel design and construction. A cuff is the band of fabric that finishes the bottom of a sleeve. A yoke is a shaped piece across the shoulders or hips that provides structure and fit. A gusset is a small fabric insert used to add room and reinforce stress points, often at the underarm. A lapel is the folded-back part of the front of a jacket or coat. Each of these parts contributes to the functional performance and aesthetic style of the finished garment.

119. (C) Trickle-Up Theory
The trickle-up theory, also known as subcultural leadership, explains how fashion trends can originate from the "streets" or specific subcultures rather than from elite designers. Examples include the mainstream adoption of punk styles, hip-hop apparel, or vintage looks. These trends are initially embraced by youth or counter-culture groups and eventually gain enough visibility and popularity to be adapted by high-fashion houses and mass-market retailers. This theory highlights the significant influence that grassroots movements and social changes can have on the global fashion industry and modern design trends.

120. (B) To add room to the bust area without altering the waist or shoulders.
A Full Bust Adjustment (FBA) is a common pattern alteration used to improve the fit of a garment for individuals with a larger bust size than the pattern was originally designed for. The goal is to provide more width and length specifically in the bust area while keeping the shoulders, neck, and waist measurements the same. This ensures that the garment fits comfortably over the chest without pulling or distorting the other parts of the bodice. It is a more precise method than simply choosing a larger size, which would be too big elsewhere.

121. (A) Both A and R are true and R is the correct explanation of A.
The cutting room is a pivotal stage in apparel manufacturing where precision is absolutely paramount. Inaccurate cutting can lead to significant problems during assembly, as the pieces may not align correctly, resulting in poor fit and a high number of rejects. Furthermore, errors in cutting cause irreparable fabric waste, which directly increases production costs. Therefore, maintaining high standards and using accurate cutting techniques are essential for ensuring that the subsequent sewing and finishing stages proceed efficiently and that the final garments meet the required quality specifications.

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122. (B) Abrasion resistance
Abrasion resistance is a key performance property of a fabric that measures its ability to withstand surface wear and friction. Fabrics with high abrasion resistance can endure rubbing against other surfaces, such as chairs or other garments, without developing holes, pilling, or thinning. This property is particularly important for items that see heavy use, such as workwear, upholstery, and children's clothing. Testing for abrasion resistance helps manufacturers select the most durable materials for specific end uses, ensuring the longevity and continued aesthetic appeal of the final product over its lifetime.

123. (C) Symbols overcome language barriers in the global market.
The use of standardized symbols on care labels is a strategic choice made to accommodate the global nature of the apparel industry. Since clothing is often manufactured in one country and sold in many others, symbols provide a universal language that consumers worldwide can understand, regardless of their native tongue. This system simplifies the labeling process for manufacturers and ensures that essential

care instructions are accessible to everyone. By overcoming language barriers, symbols help prevent improper garment maintenance and improve overall consumer satisfaction and product longevity in diverse international markets.

124. (B) Washability at high temperatures, durability, and comfort
Hospital scrubs are specialized garments that must meet rigorous functional and hygiene standards. The most important properties for these textiles are high-temperature washability to ensure thorough sanitization and durability to withstand frequent industrial laundering. Additionally, comfort is essential for healthcare professionals who often work long shifts in demanding environments. Fabrics like cotton-polyester blends are frequently chosen because they offer a balance of these properties, providing a practical and reliable solution that supports both the health of the wearer and the requirements of the medical facility.

125. (D) Making a decision to either reject or fail to reject the null hypothesis.
Hypothesis testing is a systematic statistical process used to evaluate the validity of a research claim. The final and most crucial step involves making a definitive decision based on the analyzed data. The researcher must decide whether there is enough evidence to reject the null hypothesis in favor of the alternative hypothesis. If the results are not statistically significant, the researcher fails to reject the null hypothesis. This decision-making process allows for objective conclusions to be drawn from the study, providing a clear answer to the original research question.

126. (B) Waist-to-hip ratio
Most body measurements used in the apparel industry, such as bust circumference and sleeve length, are direct physical data points taken with a tape measure. However, the waist-to-hip ratio is a calculated value derived by dividing the waist measurement by the hip measurement. While it is not a direct measurement of length or girth, it provides important information about an individual's body shape and fat distribution. This ratio is often used in health assessments and can also be a useful anthropometric indicator for designers when developing standardized sizing and garment proportions for different populations.

127. (B) Needle positioner
A needle positioner is a significant advancement in modern sewing machines that improves efficiency and precision. This feature allows the operator to program the machine to automatically stop the needle in either its highest position or its lowest position (down in the fabric) when they stop sewing. Stopping the needle in the down position is especially helpful for pivoting at corners and managing thick layers without the fabric shifting. This automation reduces the need for manual adjustment of the hand wheel, saving time and improving the overall workflow during garment construction.

128. (C) Different tints, tones, and shades of a single color.
A monochromatic color scheme is a sophisticated design approach that uses only one base hue. Variety and visual interest are achieved by incorporating different tints (adding white), tones (adding grey), and shades (adding black) of that single color. This creates a unified and harmonious look that is often perceived as elegant and lengthening. In apparel design, monochromatic schemes are valued for their simplicity and their ability to draw attention to the garment's silhouette and texture rather than being distracted by multiple contrasting colors.

129. (B) 1, 2, 3, and 4 only
Fashion cycles and trends are influenced by a wide range of broad societal factors. Economic conditions determine consumer spending power, while social changes and lifestyles influence what types of clothing are considered practical and desirable. Political events and technological advancements also play major roles in driving innovation and changing the way fashion is produced and consumed. While a specific designer's preference can influence a particular collection, it is these larger, external forces that typically have the most significant and long-lasting impact on the overall direction and evolution of fashion trends.

130. (B) Add extra fullness and flare, typically in a skirt or sleeve.

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A godet is a triangular or wedge-shaped piece of fabric that is inserted into a seam or a slit in a garment. Its primary purpose is to add extra fullness and flare, typically at the hemline of a skirt, dress, or sleeve. By incorporating godets, designers can create a more dynamic and fluid silhouette that moves gracefully as the wearer walks. Beyond their functional role in adding volume, godets are also frequently used as a decorative element to introduce contrasting colors, textures, or patterns into a design.

131. (B) The process of attaching interlining to a fabric piece using heat and pressure.
Fusing is a common industrial process used in garment manufacturing to attach interlining to the main fabric. This is achieved using a specialized machine called a fusing press, which applies a precise combination of heat, pressure, and time. The interlining has a heat-sensitive adhesive on one side that melts and bonds with the fabric. Fusing provides essential structure, stability, and support to specific garment parts like collars, cuffs, and lapels. It is a faster and more consistent method than traditional sew-in interfacings, resulting in a more professional and durable finish.

132. (B) Fabrics with a loose weave or smooth, filament yarns.
Seam slippage is a quality defect where the fabric yarns pull away from the stitching line under stress, leaving a visible gap. This problem is most common in fabrics with a loose weave or those made from smooth, slippery filament yarns, such as satin or some synthetics. In these materials, the yarns can easily slide over each other, making the seam less secure. Manufacturers must carefully consider fabric construction and use appropriate seam types, such as reinforced or wider seams, to minimize the risk of slippage and ensure garment durability.

133. (C) Test for colorfastness on an inconspicuous area or wash separately.
When dealing with new, brightly colored garments, it is essential to take precautions to prevent dye transfer and fading. The most recommended first step is to test the fabric for colorfastness. This involves dampening a small, hidden area of the garment and pressing it with a white cloth to see if any dye rubs off. Alternatively, washing the item separately for the first few times ensures that any excess dye will not damage other clothes in the load. This simple practice helps preserve the garment's appearance and prevents laundry accidents.

134. (B) Insulating, moisture-wicking, and water-resistant.
Selecting clothing for hiking in cold, wet environments requires a focus on performance and protection. The primary goal is to keep the wearer warm and dry, which necessitates fabrics with specific functional properties. Insulating materials like wool or synthetic fleece help retain body heat. Moisture-wicking base layers pull sweat away from the skin to prevent chilling. Finally, a water-resistant or waterproof outer shell is essential to block rain and wind. Prioritizing these technical features ensures the wearer's safety and comfort during demanding outdoor activities in challenging weather conditions.

135. (B) A literature review or meta-analysis
A literature review or meta-analysis is a research method that involves systematically identifying, evaluating, and synthesizing information from existing studies on a particular topic. The goal is to provide a comprehensive overview of current knowledge and to draw new conclusions based on the collective findings of previous researchers. This approach is highly valuable for identifying trends, gaps in research, and establishing a theoretical framework for new investigations. It allows scholars to build upon existing work and contribute to a deeper understanding of complex issues within the field of apparel and textile science.

136. (C) Trousers and shorts
The crotch depth, also known as the rise, is a critical measurement for the proper fit of lower-body garments like trousers and shorts. It measures the distance from the waistline down to the level of the crotch. This measurement ensures that the garment has enough length to comfortably accommodate the wearer's anatomy and allows for ease of movement, such as sitting and walking. An incorrect crotch depth can lead to a garment that is either too tight and restrictive or too loose and unflattering, significantly affecting the overall comfort and aesthetic of the apparel.

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side of the fabric, it produces two neat, straight lines of stitching, while on the bottom, the bobbin thread creates a zig-zag pattern that connects them. This creates a professional-looking hem that is especially useful for knitted fabrics, as the zig-zag on the underside provides the necessary stretch to prevent the stitches from breaking.

178. (C) At a 45-degree angle to the selvage edge.
Cutting fabric on the "bias" means orienting the pattern at a 45-degree angle to the warp and weft yarns, or the selvage edge. This direction has the most inherent stretch and flexibility, even in woven fabrics that do not normally stretch. Bias-cut garments are prized for their exceptional drape and their ability to skim the body's curves in a fluid and flattering way. While more challenging to cut and sew because the fabric is prone to distortion, this technique is widely used in high-end fashion to create elegant and sophisticated silhouettes.

179. (D) Guaranteed sales figures for specific designs.
Fashion forecasting services provide valuable insights into future trends, but they cannot offer absolute guarantees. They analyze a wide range of data to predict which colors, fabrics, and silhouettes will likely be popular in upcoming seasons, helping designers and retailers plan their collections and inventories. However, because consumer behavior is influenced by many unpredictable factors, such as economic shifts or sudden social changes, actual sales figures can never be guaranteed. Forecasting is a tool for informed decision-making and risk reduction, but it remains a prediction rather than a certainty in the dynamic fashion market.

180. (C) Dart apex
A dart is a fundamental shaping device in pattern making, and understanding its components is essential for achieving a good fit. The "apex" is the point of the dart, which always points towards the fullest part of the body's curve, such as the bust or the hip. The "legs" are the two lines that are folded together to form the dart, and the "intake" is the amount of fabric that is removed. Correctly placing and directing the dart apex ensures that the garment conforms smoothly to the wearer's anatomy, providing a professional and well-fitted appearance.

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181. (C) 1, 2, 3, and 4 only
The apparel manufacturing process follows a logical sequence, with several critical steps occurring before any actual sewing begins. It starts with pattern making to create the templates for the design. Next is marker making, which involves planning the most efficient layout of these pieces on the fabric. Spreading then involves laying out the fabric in multiple layers, followed by cutting the pieces precisely according to the marker. While garment pressing is important, it is typically a finishing step that occurs after the garment has been assembled, rather than a pre-sewing process.

182. (B) Fabric grainline defects
Bowing and skewing are common defects related to the grainline of a fabric. Bowing occurs when the filling (horizontal) yarns curve across the width of the fabric rather than being perfectly straight. Skewing happens when the filling yarns are straight but meet the warp (vertical) yarns at an angle other than 90 degrees. These defects typically occur during the fabric's finishing process. If garments are cut from bowed or skewed fabric, they will not hang correctly and may twist or pull, significantly affecting the quality and appearance of the finished product.

183. (C) Use the hottest water possible for all fabric types.
Effective clothing care relies on several key principles to maintain the quality and longevity of garments. These include reading and following the specific instructions on care labels, properly sorting clothes before washing to prevent damage and color transfer, and treating stains as quickly as possible. However, the idea that one should use the hottest water possible for all fabrics is incorrect. High temperatures can cause significant damage, such as shrinkage, fading, and fiber degradation, especially in delicate and synthetic materials. Choosing the appropriate temperature for each specific fabric type is vital for proper care.

184. (C) Physiological needs, psychological needs, and lifestyle activities
Clothing selection for different age groups is a complex process driven by several interrelated factors. Physiological needs, such as warmth, comfort, and safety, are fundamental at all stages

as prolonged exposure to direct sunlight can lead to significant fading over time.

144. (A) Individuals with physical disabilities, for ease of dressing.
Adaptive clothing is a specialized category of apparel designed specifically for individuals with physical disabilities or limited mobility. The primary goal is to make the process of dressing and undressing easier and more dignified for the wearer and their caregivers. These garments incorporate features like magnetic closures, Velcro, front-opening designs, and seated-cut trousers. By addressing unique ergonomic and functional needs, adaptive clothing enhances the independence and quality of life for people with various physical challenges, ensuring that fashion remains inclusive and accessible to everyone.

145. (A) Limitations - Aspects of the study that the researcher cannot control.
In research, it is essential to clearly define the boundaries and constraints of a study. Limitations refer to the specific factors or conditions that the researcher cannot control, such as a small sample size or a limited geographical area. These constraints can potentially impact the generalizability and final results of the study. Identifying and acknowledging limitations is a critical part of a transparent research process, as it helps other scholars understand the context of the findings and provides a basis for future investigations that can address these specific challenges.

146. (A) The overall body shape and proportions of an individual.
A figure type is an anthropometric classification used in the apparel industry to describe an individual's overall body shape and proportions. Common figure types include the hourglass, pear, apple, and rectangle. Understanding these types is essential for designers and manufacturers when developing standardized sizing systems and styles that flatter different physical forms. By categorizing body shapes, the industry can more effectively cater to the diverse needs of the population, ensuring that garments are designed to accommodate specific curves and proportions for improved fit and aesthetic appeal.

147. (B) A domestic sewing machine
The lockstitch is the most common and fundamental type of stitch produced by domestic and many industrial sewing machines. It is formed by interlocking two separate threads: one from the needle (upper thread) and one from the bobbin (lower thread). This creates a very secure and durable seam that is identical on both the top and bottom sides of the fabric. The lockstitch is ideal for a wide range of sewing tasks, from basic garment assembly to decorative topstitching, making the machines that produce it versatile and essential tools for any sewer.

148. (D) Emphasis
Emphasis is a core principle of design used to create a clear focal point in a garment. By using elements like contrasting colors, bold patterns, unique textures, or unusual silhouettes, a designer can draw the viewer's eye to a specific area of interest. This focal point gives the design a sense of hierarchy and prevents it from appearing monotonous. Effective use of emphasis can highlight the wearer's best features or communicate a particular design theme, making the apparel more visually engaging and memorable for the observer.

149. (B) The style being copied by manufacturers and becoming more widely available at lower prices.
The rise stage is a dynamic phase in the fashion cycle where a style begins to gain wider acceptance and popularity. During this time, the original design is often copied or adapted by mass-market manufacturers, making it available to a larger audience at various price points. Fashion-forward consumers and early adopters embrace the trend, and it starts to receive more coverage in the media. This increased visibility and availability drive further adoption, moving the style closer to its peak of popularity and commercial success in the global marketplace.

150. (B) Both A and R are true but R is not the correct explanation of A.
Darts are fundamental tools in pattern making used to create three-dimensional shaping for the human figure. While the first statement correctly identifies their primary purpose, the second statement describes an additional, more advanced application of darts. The fact that dart intake can be converted into other design features like gathers or tucks is a versatile technique,

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137. (C) A programmable embroidery unit
Advancements in sewing machine technology have led to the development of highly specialized attachments that automate complex tasks. A programmable embroidery unit is a prime example, allowing users to create intricate, multi-colored designs with extreme precision. These units are controlled by digital files, which direct the machine's movement to sew complex patterns automatically. This technology has significantly expanded the creative possibilities for both domestic and industrial sewers, making it possible to achieve professional-quality embroidery with minimal manual effort and in a fraction of the time required for traditional hand methods.

138. (A) Both Statement I and Statement II are true.
Color theory plays a significant role in apparel design, as different hues can influence visual perception and create optical illusions. Warm colors, such as red, orange, and yellow, are perceived as "advancing," which can make an object or person appear larger or closer. Conversely, cool colors like blue, green, and violet are seen as "receding," which can have a slimming effect and make an object appear smaller or further away. Designers strategically use these properties of color to enhance or balance the wearer's figure and to communicate a specific mood or aesthetic.

139. (B) A precise, two-dimensional line drawing showing construction details.
A technical flat, or flat sketch, is a vital communication tool in the apparel manufacturing process. It is a precise, two-dimensional line drawing that shows a garment as if it were laid flat on a table. Unlike a stylized fashion illustration, a flat sketch must be anatomically accurate and include all essential construction details, such as seams, topstitching, hardware, and closures. These drawings are used in tech packs to provide clear instructions to manufacturers, ensuring that the final product is constructed exactly as the designer intended, maintaining consistency and quality.

140. (B) Draping on a dress form
Draping is the most suitable pattern-making technique for creating complex, asymmetrical, or fluid designs. By working directly with fabric on a three-dimensional dress form, the designer can intuitively manipulate the material and see how it responds to gravity and the body's curves. This hands-on approach allows for a level of creative exploration and technical precision that is difficult to achieve with two-dimensional drafting alone. Draping is particularly valuable for developing haute couture garments and avant-garde styles where the fabric's behavior is a central part of the overall design concept.

141. (A) 4, 2, 3, 1
Effective quality management in apparel manufacturing follows a logical sequence to ensure that the final product meets all standards. It begins with setting clear quality standards and specifications. Next, raw material inspection is conducted to identify any fabric defects before production starts. During assembly, in-process quality checks are performed on the sewing line to catch errors early. Finally, a final garment inspection is carried out to ensure that the finished items are free from defects and ready for the market. This systematic approach minimizes waste and ensures high consumer satisfaction.

142. (C) A snag or tear
A snag or tear is a fabric defect that occurs when a sharp object catches and pulls or breaks the yarns of the textile. This results in a visible hole or a distorted area on the fabric's surface. Snags are particularly common in fabrics with long floats or loose weaves, while tears can occur in any material subjected to excessive mechanical stress. These defects not only affect the appearance of the garment but also compromise its structural integrity. Manufacturers must carefully inspect fabrics for such damage to ensure the quality and durability of their products.

143. (C) Sunlight (UV rays)
Sunlight, specifically ultraviolet (UV) radiation, is a natural laundry agent that has been used for centuries. UV rays have mild bleaching and sanitizing properties, which can help to whiten white fabrics and remove certain types of stains. Additionally, sunlight acts as a natural deodorizer by killing many bacteria that cause unpleasant odors. While it is an effective and environmentally friendly way to refresh laundry, it is important to be cautious with colored fabrics,

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and professional-looking buttonholes. This task is complex and repetitive when done manually, but the attachment ensures that each buttonhole is of a uniform size and quality. By simplifying such technical steps, attachments allow sewers to achieve high-quality results in less time, making them invaluable tools for both hobbyists and professional garment manufacturers in the apparel industry.

158. (B) 1, 2, and 4 only
Distinguishing between the elements and principles of design is fundamental for any fashion professional. Elements are the basic visual components, such as line, color, shape, and texture. Principles are the rules that govern how those elements are arranged, including balance, proportion, rhythm, emphasis, and harmony. Statements 1, 2, and 4 correctly categorize these terms. However, statement 3 is incorrect because rhythm is a principle and texture is an element. Understanding this distinction allows designers to analyze their work more effectively and create more successful and cohesive apparel designs.

159. (C) Changing social customs and lifestyles
Large-scale, long-term shifts in fashion are often driven by significant changes in society. The decline of formal hat-wearing for men in the mid-20th century is a classic example of this. As lifestyles became more informal, urbanization increased, and social customs changed, the practical and symbolic need for formal hats diminished. This shift was not the result of a single event but rather a gradual evolution in how people lived and dressed. Understanding these broad social influences is essential for fashion historians and forecasters when analyzing the past and predicting future fashion directions.

160. (A) Alteration corrects fit for an individual, while grading creates a range of standard sizes.
Pattern alteration and pattern grading are both essential techniques, but they serve different purposes. Alteration involves making specific changes to a pattern to correct fit issues for a particular individual's unique body measurements. In contrast, grading is the systematic process of increasing or decreasing a base pattern to create a range of standard sizes (e.g., from small to large) for mass production. While both involve changing dimensions, alteration is a personalized process for bespoke fit, whereas grading is a technical process required for the commercial garment manufacturing industry.

161. (A) Create the appearance of a durable flat-felled seam with an easier construction method.
A mock flat-felled seam is a technique used to mimic the look of a traditional flat-felled seam, which is known for its durability and clean finish on both sides. The "mock" version is simpler and faster to construct, making it a popular choice in mass garment manufacturing. It involves sewing a standard plain seam, then pressing both allowances to one side and topstitching them down from the right side of the fabric. While not as strong as the original, it provides a similar aesthetic and is frequently used on casual apparel like shirts and lightweight trousers.

162. (B) P-3, Q-4, R-1, S-2
Understanding the causes of common garment and fabric defects is essential for effective quality control. Seam puckering is often caused by incorrect sewing tension, while broken stitches can result from a needle being too large or dull. Color bleeding is typically a sign of low-quality dyes or improper fixation during the fabric's manufacturing. Pilling is caused by abrasion and wear on fabrics made from low-twist staple fibers. By identifying these root causes, manufacturers can take specific corrective actions to improve their production processes and deliver higher-quality finished garments.

163. (B) Prevent color transfer and wash fabrics with similar care requirements.
Proper sorting is a fundamental principle of laundry care that helps to protect garments and ensure effective cleaning. By separating items based on color (e.g., whites, lights, and darks), consumers can prevent dye transfer, which can cause permanent staining. Additionally, sorting by fabric type and care requirement (e.g., delicate vs. heavy-duty) allows for the selection of the most appropriate water temperature and wash cycle. This systematic approach minimizes the risk of damage, such as shrinkage or fiber degradation, and ensures that each garment receives the best possible care during the laundering process.

164. (C) Summer clothing

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but it is not the reason why darts are used for basic shaping. Both concepts are essential for professional pattern makers to understand, as they allow for both functional fit and creative design variations.

151. (C) Prevent curved or bias edges from stretching out of shape.
Staystitching is a preventive sewing technique used to maintain the structural integrity of fabric pieces before they are assembled. It involves sewing a line of regular-length stitches through a single layer of fabric, typically within the seam allowance. This is most important on curved edges like necklines or on fabric cut on the bias, which are prone to stretching and distortion during handling. By "locking" the yarns in place, staystitching ensures that the pattern piece retains its original shape and fits correctly with other components during the assembly process.

152. (C) Grams per Square Meter
GSM stands for Grams per Square Meter, which is a standard metric used to measure the weight and density of a fabric. It is a critical specification in the textile and apparel industry, as it directly influences a fabric's drape, warmth, and overall performance. A higher GSM indicates a heavier, thicker fabric, such as denim or heavy fleece, while a lower GSM represents a lighter, thinner material like chiffon or lightweight jersey. Accurate GSM data allows designers and manufacturers to select the appropriate fabric for a specific garment's intended end use.

153. (C) Tumble drying
Care labels use standardized symbols to provide essential instructions for garment maintenance. A square symbol generally represents drying instructions. When a circle is placed inside the square, it specifically indicates that the garment can be safely tumble dried in a machine. Additional markings, such as dots inside the circle, provide information about the recommended temperature setting (e.g., one dot for low heat, two for medium). Adhering to these symbols is vital for preventing shrinkage, damage to heat-sensitive fibers, and ensuring the long-term quality and appearance of the apparel.

154. (C) Fabric with loosely attached beads, sequins, or pom-poms

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Safety is the paramount consideration when selecting fabrics and designs for toddlers. Apparel with loosely attached embellishments like beads, sequins, or pom-poms should be avoided, as these small parts can easily become detached and pose a significant choking hazard. Young children in this developmental stage are prone to exploring objects with their mouths. Therefore, it is essential to choose garments with securely fastened trims or, preferably, to avoid such decorations altogether. Prioritizing safety over aesthetics ensures that children's clothing remains practical and secure for active and curious young wearers.

155. (A) The result is unlikely to have occurred by random chance.
In research and statistics, a finding is considered "statistically significant" when the data indicates that the observed effect or relationship is real and not just a result of random variation. This is typically determined using a p-value, which measures the probability of obtaining such results by chance. A significant result suggests that the researcher can be confident in the findings and that they are likely to be applicable to the larger population. This concept is fundamental for drawing reliable conclusions and making informed decisions based on scientific data in the apparel industry.

156. (D) Buying a 'one-size-fits-all' poncho.
Body measurements are the foundation of good fit in apparel, but their importance varies depending on the type of garment. For bespoke tailoring or drafting a base block, precise measurements are absolutely essential to ensure a perfect fit for a specific individual. However, for "one-size-fits-all" items like a loose poncho or a wrap-around shawl, detailed measurements are much less critical. These garments are designed with a large amount of ease and a flexible fit that can accommodate a wide range of body sizes and shapes without the need for precise tailoring.

157. (A) Automates a complex and repetitive sewing task.
Sewing machine attachments are designed to enhance the versatility and efficiency of both domestic and industrial machines. A buttonhole attachment is a prime example, as it automates the process of creating consistent

sophisticated and technically accurate designs that require a high degree of body-conscious fit.

171. (C) Finishing
Finishing is the final stage of the apparel manufacturing process, occurring after the garment has been fully assembled. It includes several critical steps to ensure the product is ready for the market, such as final inspection for defects, pressing to remove wrinkles and sharpen seams, and final folding and packing. This stage is vital for quality control, as it is the last chance to identify and correct any errors. A high-quality finish significantly improves the visual appeal and perceived value of the garment, ensuring that it meets both consumer and retailer expectations.

172. (C) 49 cm to 51 cm
In manufacturing, "tolerance" is the permissible amount of variation from a specified standard measurement. It acknowledges that perfect precision is difficult to achieve in mass production. If a specification calls for a 50 cm measurement with a +/- 1 cm tolerance, any garment measuring between 49 cm (50-1) and 51 cm (50+1) is considered acceptable. Items falling outside this range would be rejected during quality inspection. Setting realistic tolerances is essential for maintaining consistent quality while allowing for minor, unavoidable variations in the manufacturing process, ensuring a reliable final product for consumers.

173. (B) The wool fibers will felt and shrink irreversibly.
Washing a "dry-clean only" wool suit in a machine is highly damaging due to the nature of wool fibers. The combination of heat, water, and mechanical agitation causes the microscopic scales on the wool fibers to interlock and tighten, a process known as felting. This leads to severe and irreversible shrinkage, and the fabric becomes thick, stiff, and loses its original texture and shape. Adhering to care labels is vital for preserving the integrity of expensive and delicate garments, as improper laundering can quickly and permanently ruin their appearance and utility.

174. (B) The need for garments that withstand rough play and facilitate self-dressing.
As children transition from infancy to the toddler stage, their clothing needs change to reflect their increasing physical activity and independence. Toddlers engage in much more vigorous play, which requires durable fabrics and reinforced construction. Additionally, this is the stage where children begin to learn how to dress themselves. Features like elastic waistbands, large buttons, and easy-to-use zippers facilitate this "self-dressing" process, supporting the child's development and making life easier for caregivers. Prioritizing these functional and ergonomic features is key for designing practical and successful toddler apparel.

175. (D) A is false but R is true.
Research in apparel design is an incredibly broad and multidisciplinary field that goes far beyond the study of historical costumes. While history is important, modern research encompasses a wide range of topics, including the development of advanced materials, the analysis of consumer behavior and psychology, the implementation of sustainable and ethical manufacturing practices, and in-depth market analysis. This diverse scope is essential for driving innovation, improving garment performance, and addressing the complex social and environmental challenges facing the global fashion industry today, making the field dynamic and continually evolving.

176. (C) A measuring tape and pattern-making rulers (e.g., L-square, French curve)
Drafting is a precise pattern-making method that relies on using mathematical calculations and body measurements to create a pattern on a flat surface. To achieve the necessary accuracy, specific tools are essential. A measuring tape is required to obtain body data, while specialized rulers like L-squares and French curves are used to draw straight lines and complex anatomical curves. Unlike draping, which uses fabric on a dress form, drafting is a more technical and geometric approach, making these precision-measuring and drawing tools the most critical components of the drafting process.

177. (B) Create two parallel rows of stitching on the top side of the fabric.
A twin needle, also known as a double needle, is a sewing machine advancement that allows a standard machine to sew two parallel rows of stitching simultaneously. It consists of two needles attached to a single shank. On the top

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Breathability is a critical property for fabrics used in summer clothing, as it allows air to circulate and moisture to evaporate from the skin. This helps to regulate body temperature and keep the wearer cool and comfortable in hot weather. Natural fibers like cotton and linen are highly valued for their exceptional breathability. In contrast, for end uses like rainwear or upholstery, properties like water repellency or abrasion resistance are more important. Identifying the key performance requirements for a specific end use is essential for selecting the most appropriate and functional fabric.

165. (B) Deductive reasoning and statistical inference
Hypothesis testing is a core component of the scientific method, primarily utilizing deductive reasoning and statistical inference. It involves starting with a general theory or claim (the hypothesis) and then collecting and analyzing data to see if the specific evidence supports or contradicts that claim. By using statistical tests, researchers can determine the probability that their findings are real and not just a result of random chance. This rigorous and objective approach is essential for advancing knowledge and making reliable, data-driven decisions in various fields, including apparel and textile science research.

166. (B) Hips are wider than the bust and shoulders
The pear figure, also known as the triangle shape, is a common body type characterized by specific anthropometric proportions. In this figure type, the lower body is more prominent than the upper body, with the hip and thigh measurements being significantly larger than the bust and shoulder measurements. This shape often features a well-defined waistline as well. Understanding these characteristic proportions is essential for designers and pattern makers, as it influences how they balance the silhouette and place seams to create a flattering and comfortable fit for this large segment of the population.

167. (B) One or more needle threads and looper threads, but no bobbin.
A chain stitch is a fundamental sewing mechanism that differs significantly from the common lockstitch. Instead of using a bobbin and an interlocking thread, the chain stitch is formed by looping one or more needle threads around each other or around looper threads. This creates a stitch that looks like a chain on the underside of the fabric. Chain stitches are valued for their inherent flexibility and strength, making them ideal for seams that need to stretch, such as those in knitted garments and heavy-duty applications like denim and upholstery.

168. (B) Unbroken vertical lines and a monochromatic color scheme.
Designers use elements of design to create optical illusions and influence how the wearer's figure is perceived. To make a shorter person appear taller, the goal is to lead the viewer's eye in an upward, unbroken direction. Unbroken vertical lines, such as those in a long coat or a pinstriped suit, achieve this effect. Additionally, a monochromatic color scheme—using the same or similar colors from head to toe—prevents the body from being visually "cut" into sections, further enhancing the illusion of increased height and a more elongated silhouette.

169. (B) A line-for-line copy of designer garment, sold at a lower price.
In the fashion industry, a "knock-off" is a garment that is an almost exact copy of a higher-priced designer style but is sold at a much lower price point. These items are typically produced by mass-market manufacturers who adapt trends from the runway for a wider audience. While they make high-fashion looks more accessible to the average consumer, knock-offs are a controversial subject due to issues of intellectual property and design originality. They are a significant part of the fashion cycle, helping to drive the "trickle-down" diffusion of trends.

170. (B) Removing excess fabric from a pattern to make it fit closer to the body.
Contouring is an advanced pattern-making technique used to achieve a very close, precise fit, especially in garments like strapless bodices or tight-fitting evening wear. It involves removing small amounts of excess fabric from the pattern in specific areas where it might otherwise gape or pull away from the body's curves. By carefully "hollowing out" these areas, the designer ensures that the garment stays securely in place and conforms perfectly to the wearer's unique anatomy. This technique is essential for creating

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of life. Psychological needs, including the desire for self-expression, identity formation, or social acceptance (especially among adolescents), also play a major role. Finally, the wearer's lifestyle and daily activities—such as work, sports, or play—determine the functional requirements of their apparel. Understanding these diverse needs is essential for designers and retailers to provide clothing that is both practical and desirable for their target audience.

185. (B) Reliability
Reliability is a fundamental quality of good research, referring to the consistency and stability of the results. If a study is reliable, another researcher should be able to replicate the exact same methods and obtain very similar findings. High reliability suggests that the results are not due to random chance or researcher bias, but rather reflect a real and consistent phenomenon. Ensuring reliability through standardized procedures and clear documentation is essential for building a credible body of knowledge and for making trustworthy, data-driven decisions in any field, including apparel and textile science research.

186. (A) A systematic and standardized method for taking specific measurements.
A measurement procedure is more than just the act of measuring; it is a systematic and standardized approach to data collection. This involves using specific tools, having the subject in a consistent posture, and following a precise sequence of steps to ensure accuracy and repeatability. In the apparel industry, following a standardized procedure is critical, as it allows for the creation of reliable sizing systems and ensures that patterns will fit the intended wearers correctly. Consistency in how measurements are taken is the foundation of professional pattern making and garment manufacturing.

187. (B) An automatic tension system
One of the most significant advancements in modern sewing machines is the development of automatic tension systems. Traditional machines require the operator to manually adjust a dial to achieve the correct thread tension for different fabric weights and thicknesses. In contrast, an automatic system uses sensors and computer technology to detect the fabric being used and adjust the tension of the needle and bobbin threads instantaneously. This ensures consistent, high-quality stitches without the need for trial-and-error adjustments, significantly improving the sewing experience and the professional quality of the finished garment for both domestic and industrial users.

188. (C) Flat sketch
A flat sketch, also known as a technical flat, is a precise, two-dimensional line drawing of a garment as if it were laid out flat on a table. Its primary purpose is to communicate all technical and construction details to manufacturers. It must clearly show every seam, topstitching detail, pocket placement, and type of hardware or closure. Unlike stylized fashion illustrations, flat sketches are not intended for artistic expression but for technical accuracy. They are a core component of "tech packs," which serve as the blueprint for mass-produced apparel in the global garment industry.

189. (B) Subcultural leadership theory
The "trickle-up" theory of fashion diffusion is also known as subcultural leadership. This theory proposes that new trends and styles often originate from lower-income groups, youth subcultures, or "street style" rather than from high-fashion designers. These unique looks are eventually noticed and adapted by the mainstream fashion industry, eventually reaching the runway and high-end retailers. This bottom-up approach to fashion change highlights the significant influence that grassroots cultural movements and social shifts can have on global trends, challenging traditional ideas about how fashion spreads through society.

190. (B) Add extra fullness to a pattern for features like flare or puff sleeves.
The "slash and spread" method is a fundamental and versatile technique used in flat pattern making. It involves cutting, or "slashing," a pattern piece and then spreading the sections apart by a specific amount to add extra fullness. This is the standard way to create design features like flared skirts, puffed sleeves, or ruffles while maintaining the original fit at the seam lines. After spreading the pieces, a new pattern is traced to incorporate the added volume. This method allows designers

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group. Infants need soft, safe, and easy-to-care-for garments. Adolescents prioritize peer acceptance and self-expression through trendy styles. The elderly require comfort, warmth, and features that make dressing easier, such as front closures. Toddlers need durable play clothes that facilitate self-dressing. By addressing these specific requirements, designers and retailers can provide apparel that is truly practical, comfortable, and desirable for people at every stage of life, ensuring that fashion is both functional and emotionally satisfying for all consumers.

243. (D) The claim or theory that the researcher is trying to prove.
In research, the alternative hypothesis (H1 or Ha) represents the specific claim or relationship that the researcher expects to find. It is the statement that contradicts the null hypothesis, which assumes there is no effect or difference. The goal of the study is to collect and analyze enough evidence to support the alternative hypothesis and to reject the null hypothesis. A well-formulated alternative hypothesis provides a clear and focused direction for the investigation and is a fundamental part of the scientific method. It serves as the basis for drawing conclusions and advancing our understanding of a particular research topic or phenomenon.

244. (C) Bent slightly at the elbow.
Taking accurate sleeve length measurements is essential for the comfort and professional appearance of many garments, especially tailored shirts and jackets. To obtain the correct data, the arm should be held in a natural position, bent slightly at the elbow. This is because a straight arm does not reflect the natural curve and movement of the limb. If the measurement is taken with the arm straight down, the sleeve will often be too short when the wearer moves. By accounting for this slight bend, the pattern maker ensures that the finished garment provides a comfortable range of motion and that the sleeve hem always sits correctly.

245. (A) A removable device that helps perform a specialized task, like making buttonholes.
A sewing machine attachment is a removable, specialized tool designed to enhance the machine's versatility and to automate repetitive or complex tasks. These devices are not fundamental for the machine to run but are added to perform specific functions more efficiently and with greater precision. Common examples include buttonhole feet, zipper feet, and rufflers. Attachments allow both domestic and industrial sewers to achieve professional-quality results that would be difficult or time-consuming to do by hand. They significantly expand the creative and technical possibilities of a standard sewing machine, making them indispensable for anyone involved in high-quality garment construction and professional apparel manufacturing.

246. (D) Harmony
Understanding the building blocks of design is fundamental for any apparel professional. The elements of design are the basic visual components used to create an aesthetic composition. Line, color, and texture are three of these fundamental elements. In contrast, harmony is classified as a principle of design. Principles are the rules or guidelines that govern how those elements are combined and arranged to achieve a successful and unified result. Other principles include balance, proportion, and emphasis. Distinguishing between elements and principles allows designers to analyze their work more effectively and to create garments that are both visually engaging and aesthetically balanced.

247. (B) Increasing the speed of trend diffusion and the influence of 'influencers'.
The rise of social media has fundamentally transformed the global fashion industry by dramatically increasing the speed and reach of trend diffusion. In the past, fashion information spread much more slowly through magazines and traditional media. Today, new styles can be seen instantly by millions of people worldwide through platforms like Instagram and TikTok. Furthermore, social media has led to the rise of "influencers," who can drive consumer demand and popularize new trends much faster than traditional celebrities or editors. This rapid flow of information has shortened fashion cycles and forced brands to become more agile and responsive to the ever-changing preferences of a highly connected audience.

248. (B) Sloper or Block

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needle and is essential for precision work. Finally, the feed dog's role is to grip and move the fabric under the needle. Each of these components must work in perfect synchronization to produce consistent, high-quality seams in professional apparel manufacturing.

198. (A) All parts of the design work together to create a sense of completeness and harmony.
Unity is the overarching principle of design that is achieved when all the elements and other principles work together to create a sense of completeness and harmony. It ensures that the various components of a garment—such as the line, color, texture, and proportion—feel integrated rather than like a collection of unrelated parts. When a design possesses unity, it communicates a clear and cohesive theme and is visually satisfying to the observer. Achieving unity is the ultimate goal for any designer, as it signifies a successful and professional realization of their artistic vision.

199. (C) A person or style that is ahead of the current fashion trends.
The term "fashion-forward" is used to describe individuals or styles that are ahead of the current mainstream trends. These are often the "fashion innovators" who are the first to adopt new and daring looks before they become widely accepted. A fashion-forward style might incorporate avant-garde silhouettes, experimental fabrics, or unusual color combinations that challenge traditional ideas of what is fashionable. Being fashion-forward requires a strong sense of personal style and a willingness to take risks, and these individuals play a key role in driving innovation and change in the global fashion industry.

200. (C) A is true but R is false.
Flat pattern making is a highly effective technique that relies on using a basic pattern block, or sloper, which has been precisely drafted and fitted to specific measurements. While this provides a strong foundation for consistent fit, the second statement is incorrect. Any significant design changes, such as moving darts, adding fullness, or changing a neckline, can affect how the garment drapes and fits the body. Therefore, professional designers always create and fit a test garment, or muslin, to verify the new design and make any necessary adjustments before proceeding to the final fabric.

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201. (C) Garment assembly (sewing)
The process of transforming fabric into a finished garment involves several major stages, with garment assembly, or sewing, being the most prominent. While weaving, spinning, and growing cotton are all essential parts of the broader textile industry, they are considered pre-production stages. In the context of apparel manufacturing, the focus is on taking the cut fabric pieces and joining them together using various sewing techniques and machines. This assembly stage is where the two-dimensional pattern pieces are finally transformed into a three-dimensional, wearable product, making it a central and critical part of the overall manufacturing process.

202. (C) Tear strength
Tear strength is a vital quality parameter that measures a fabric's resistance to the propagation of an existing slit or tear. It is a measure of the force required to pull the fabric apart once a break in the fibers has already occurred. This property is crucial for garments that are subjected to mechanical stress and potential snags, such as workwear, outdoor gear, and children's clothing. Fabrics with high tear strength are less likely to fail catastrophically during use. Testing for tear strength helps manufacturers ensure that their products are durable and meet the performance requirements of their intended end use.

203. (B) Hand washing in cool water with a mild detergent.
Proper laundering is essential for preserving the quality and appearance of delicate fabrics like silk and lace. The high heat and intense mechanical agitation of a standard washing machine can easily damage these fibers, causing shrinkage, fraying, or loss of texture. Hand washing in cool water with a mild, pH-neutral detergent is the most recommended and gentlest method. This approach allows for thorough cleaning while minimizing stress on the delicate material. By avoiding harsh chemicals and extreme temperatures, consumers can ensure that their most valuable and fragile garments remain in excellent condition for many years.

to transform basic blocks into a wide variety of fashionable and complex silhouettes.

191. (B) Enclosing the raw edges of a seam with a separate strip of fabric.
A bound seam is a high-quality finish where a separate strip of fabric, often bias tape, is used to enclose the raw edges of the seam allowance. This technique provides a clean, professional look on both the inside and outside of the garment and prevents fraying. It is frequently used on unlined jackets, the edges of pockets, or any area where a decorative and durable finish is desired. Bound seams are particularly useful for heavy or bulky fabrics where traditional finishing methods might be unsightly or ineffective, adding both functional strength and aesthetic value.

192. (B) Elastic recovery
Elastic recovery is a critical quality parameter for many types of apparel, especially activewear and garments with stretch. It measures a fabric's ability to return to its original length and shape after being stretched. Fabrics with high elastic recovery will maintain their fit and support over time, preventing sagging or "bagging out" at the knees or elbows. Testing involves stretching a fabric sample under a specific load and then measuring how much it recovers when the load is removed. This data helps manufacturers select the best materials for garments that must maintain their proportions during vigorous physical activity.

193. (B) Dried flat
Care symbols are a universal language used to provide essential instructions for maintaining garments. A square symbol represents drying, and when it contains a single horizontal line, it specifically means that the garment should be dried flat. This instruction is critical for items that can easily lose their shape if hung while wet, such as heavy knitted sweaters or delicate handmade pieces. Drying flat ensures that the weight of the water does not stretch the fibers, helping the garment retain its original size and shape throughout its life.

194. (C) Comfort, softness, and breathability.
When selecting fabrics for sleepwear, the primary goal is to ensure the wearer's comfort throughout the night. Therefore, softness, a non-irritating hand-feel, and high breathability are the most important properties. Fabrics like cotton jersey, silk, and soft rayons are popular choices because they allow air to circulate and feel gentle against the skin. Additionally, sleepwear should have a relaxed fit to allow for freedom of movement during sleep. Prioritizing these comfort-focused features is essential for promoting restful sleep and overall well-being, which is the fundamental purpose of this category of apparel.

195. (A) Both Statement I and Statement II are true.
Understanding research terminology is essential for any scholar. The "type" of research refers to the overall methodology used to conduct the study, such as experimental, descriptive, or historical. This defines the general approach and the kinds of questions that can be answered. The "scope," on the other hand, defines the specific boundaries and extent of a particular investigation, including the target population, geographic area, and any limitations. Both of these concepts are vital for clearly communicating the nature and extent of a research project and for ensuring that the findings are interpreted correctly within their intended context.

196. (C) Size charts and statistical tables
Anthropometric data, which involves the systematic measurement of the human body, is typically presented in the form of size charts and statistical tables. These tools provide a standardized way to represent the average measurements and proportions of a specific population (e.g., adult women, toddlers). Size charts are essential for the apparel industry, as they allow manufacturers to develop standardized sizing systems that fit the majority of their target customers. These tables provide the technical data needed for pattern making and grading, ensuring that mass-produced clothing is both functional and comfortable for a diverse global market.

197. (B) P-4, Q-1, R-3, S-2
A thorough understanding of the parts and functions of a sewing machine is fundamental for successful garment construction. The take-up lever pulls thread from the spool and controls its flow for each stitch. The stitch regulator allows the operator to set the desired length of the stitches. The hand wheel is used to manually move the

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be converted into tucks, gathers, or pleats. This provides endless possibilities for adding style and visual interest while maintaining the same three-dimensional fit over the body's curves. By using these creative alternatives to darts, designers can create a wide range of different silhouettes and looks, making it a vital skill for professional pattern makers and designers to master.

211. (C) A button sewer machine
In industrial apparel manufacturing, efficiency and speed are essential, which has led to the development of highly specialized machines. A button sewer machine is a prime example, designed to attach various types of buttons to garments automatically and at very high speeds. These machines can be programmed to sew different stitch patterns and can handle a large volume of work with extreme consistency. Using specialized machines like this significantly reduces the time and labor required for finishing garments, contributing to the overall productivity and cost-effectiveness of large-scale garment manufacturing in a competitive global market.

212. (B) The permissible range of variation from a standard measurement.
In the apparel industry, "tolerance" is a critical concept used in quality control and manufacturing. It refers to the small, permissible range of variation from a specified standard measurement on a technical specification sheet. For example, if a chest measurement is specified as 50 cm with a +/- 1 cm tolerance, any garment that measures between 49 cm and 51 cm is considered acceptable. Setting realistic tolerances acknowledges that minor variations are unavoidable in mass production while ensuring that the final garments still meet the intended fit and quality standards for the consumer.

213. (B) Pretreat the stain with a solvent or detergent before washing.
Effective stain removal requires a targeted approach based on the nature of the stain. Grease and oil-based stains are particularly challenging because they do not dissolve in water. The best method is to pretreat the area with a specialized solvent or a concentrated liquid detergent before laundering. This helps to break down the oils and lift them from the fabric fibers. It is important to avoid using hot water initially, as this can "set" some stains. By following this proactive pretreatment step, consumers can significantly increase the chances of completely removing tough stains and preserving the appearance of their garments.

214. (B) Aesthetics, drape, and feel.
For high-occasion apparel like a wedding gown, the primary goals are beauty, luxury, and emotional significance. Therefore, the selection of fabric priorities aesthetic qualities over more functional ones like durability or ease of care. A fabric's drape—how it hangs and moves—is essential for creating the desired fluid or structured silhouette. Additionally, the tactile "feel," or hand, of the fabric contributes to the overall sense of quality and comfort for the wearer. Materials like silk satin, delicate lace, and fine tulle are common choices because they embody these prestigious and highly valued aesthetic and sensory properties.

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215. (B) Experimental research
Experimental research is a rigorous scientific method used to identify and confirm cause-and-effect relationships between variables. It involves the researcher deliberately manipulating an independent variable (the cause) to observe its specific effect on a dependent variable. This process is conducted under highly controlled conditions to ensure that any observed changes are truly a result of the manipulation and not due to outside factors. In the context of apparel, this might involve testing how different chemical treatments affect the water-repellency of a fabric, providing objective and reliable data for product development and performance standards.

216. (B) Develop standardized sizing systems
Anthropometric data, which involves the systematic measurement of the human body, is the foundation for creating effective and reliable standardized sizing systems in the apparel industry. By analyzing the average dimensions and proportions of their target populations, manufacturers can develop size charts and pattern blocks that will fit the majority of their customers. This data-driven approach is essential for the success of mass-produced clothing, as it ensures that garments are both functional and comfortable for a diverse global market. Without accurate anthropometric data, sizing would be

204. (A) Adherence to company dress code and professionalism.
Selecting appropriate clothing for an office environment is primarily driven by professional expectations and the company's specific dress code. The goal is to project an image that is competent, respectful, and aligned with the corporate culture. While individual style is important, extremes in fashion or overly casual attire are often considered inappropriate. Choosing well-fitted, neat, and professional garments demonstrates that the employee understands and respects workplace norms. Adhering to these standards is a key part of professional communication and can positively influence how an individual is perceived by colleagues and clients in a business setting.

205. (D) 1, 2, 3, and 4
Research in the field of apparel and textile design is multifaceted and encompasses a wide range of important topics. These include investigating consumer behavior and sustainability, developing innovative smart textiles, conducting historical studies of fashion's influences, and performing ergonomic research to improve garment fit and function. All of these areas represent valid and important scopes for academic and professional study. By exploring these diverse topics, researchers can drive innovation, improve product performance, and address the complex social, environmental, and technical challenges facing the global fashion industry, contributing to a more sustainable and successful future for the field.

206. (B) Circumference measurements
In anthropometry, the study of human body measurements, "girth" is a common term used to describe circumference measurements. These are taken by wrapping a tape measure around a specific part of the body, such as the neck, chest, waist, or hips. Girth measurements are essential for pattern making and garment manufacturing, as they determine the width and overall volume of the apparel. They provide a three-dimensional understanding of the human figure, ensuring that mass-produced clothing has the correct proportions to fit and comfortably accommodate the diverse body sizes and shapes of the target population.

207. (B) Sewing in a circular manner, such as for cuffs and trouser legs.
A "free arm" is a highly practical advancement in both domestic and industrial sewing machines. It is achieved by removing a portion of the machine's base, leaving a narrow, projecting arm that contains the shuttle and feed mechanism. This feature allows the operator to slide tubular or circular garment parts, such as sleeve cuffs, trouser legs, or necklines, over the arm for easy sewing. Without a free arm, these small, circular areas are much more difficult and awkward to handle, making this feature essential for professional-quality garment construction and for facilitating many common sewing and repair tasks.

208. (A) Lightness or darkness
In color theory, "value" is one of the three fundamental properties of a color, alongside hue (the name) and intensity (brightness). Value refers specifically to the relative lightness or darkness of a hue. It is determined by the amount of white or black mixed with the base color, creating tints and shades. In apparel design, value is a powerful tool for creating visual interest, establishing contrast, and influencing the perceived proportions of the body. For example, using lighter values can draw attention to an area, while darker values are often used to create a more receding or slimming effect.

209. (A) Early Adopters
Early adopters play a crucial role in the diffusion of fashion trends. They are the group of consumers who follow shortly after the innovators and are often seen as opinion leaders within their social circles. Their adoption of a new style gives it broader visibility and legitimacy, helping it to move from a niche fashion into the "rise" stage of the fashion cycle. Early adopters are often well-respected and their fashion choices are emulated by the larger "early majority" group. Understanding and targeting this influential group is a key strategy for marketers and retailers when launching new fashion products.

210. (B) Tucks, gathers, or pleats
Dart manipulation is a core technique in flat pattern making that allows designers to move the shaping of a garment from a traditional dart into a variety of other creative features. The excess fabric within the dart, known as the intake, can

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sweaters. Because of their loose and flexible structure, these items can easily be stretched out of shape if they are hung on a traditional hanger, especially for a long time. The weight of the garment itself pulls the fibers downward, leading to "shoulder bumps" and an overall elongated and distorted silhouette. Folding knitted items and storing them flat on a shelf or in a drawer is the best method to prevent this damage and ensure that they maintain their original proportions and fit throughout their life.

224. (C) The absence of small, detachable parts and the softness of the fabric.
Safety and comfort are the primary considerations when selecting clothing for infants. Because babies have extremely delicate and sensitive skin, soft, non-irritating, and breathable fabrics like 100% cotton are essential. Furthermore, safety regulations strictly mandate the absence of small, detachable parts, such as loose buttons, beads, or long drawstrings, which could pose a significant choking or strangulation hazard. Prioritizing these functional and safety features over aesthetic trends ensures that infant apparel is practical, secure, and supportive of the health and well-being of the youngest and most vulnerable members of our society during their early development.

225. (D) 1, 2, 3, 4, and 5
Successful apparel design and manufacturing require a diverse set of specialized tools and equipment, each serving a critical role in the process. Shears and tracing paper are essential for the initial pattern making and cutting stages. Hip curve rulers allow for the precise drafting of anatomical lines. In the production phase, industrial lockstitch machines provide the speed and durability needed for high-volume assembly. Finally, a steam press is vital for the finishing stage to ensure a professional and wrinkle-free appearance. Together, these tools form a complete system that enables the transition from a designer's initial concept to a high-quality finished garment.

226. (A) To serve as a three-dimensional model of the human torso for draping and fitting
A dress form is an indispensable tool in any apparel design studio or manufacturing facility. Its primary purpose is to provide a stable, three-dimensional representation of the human torso, allowing designers to work in a way that two-dimensional drafting does not permit. It is essential for the "draping" method, where fabric is manipulated directly on the form to create new designs. Additionally, a dress form is used to test the fit and drape of prototype garments during the development process. By seeing how the material falls and conforms to a realistic shape, designers can make more informed and accurate design and tailoring decisions.

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227. (B) Shape
In the world of design, "shape" is a fundamental element defined as a two-dimensional area enclosed by a line. It has only length and width and is perceived as being flat. In apparel design, shapes are created by the edges of the garment pieces, the seams, and the overall silhouette of the outfit. Designers use different types of shapes—such as geometric or organic—to create visual interest and to influence how the wearer's figure is perceived. Shape serves as one of the primary building blocks of a design, upon which other elements like color, texture, and detail are added.

228. (A) Both A and R are true and R is the correct explanation of A.
Understanding the different types of fashion and their life cycles is essential for success in the industry. A "fad" is characterized by a very short-lived and intense popularity followed by a rapid decline, whereas a "classic" is a style that maintains a stable level of acceptance over a very long period. These differences in longevity are a direct result of the nature of the styles themselves. Fads are often extreme or highly specific, leading to quick saturation and boredom, while classics are simple, elegant, and versatile, allowing them to transcend seasonal trends and remain relevant for many years.

229. (A) Allow room for comfort and movement beyond the body measurements.
In pattern making, "ease" is the extra amount of space added to a pattern beyond the actual body measurements. It is a critical functional requirement for any garment. Ease allows the wearer to move their body, breathe comfortably, and perform daily activities without the clothing being too tight or restrictive. There are two types: "wearing ease," which is the minimum

inconsistent, leading to significant fit problems and consumer dissatisfaction.

217. (C) Create a hem that is almost invisible from the right side.
A "blind hem" is a specialized sewing technique used to create a clean and professional finish on garments like trousers, skirts, and dresses. The stitch is designed to catch only a few threads of the fabric on the top side, making it nearly invisible when viewed from the exterior. This technique is often achieved using a specialized presser foot and a specific zig-zag or blind hem stitch on a sewing machine. Blind hems are highly valued in both tailored and high-end fashion, as they provide a neat appearance without the distraction of visible stitching lines at the hemline.

218. (D) Emphasis
Emphasis is a core principle of design that involves creating a single dominant focal point in a garment to draw the viewer's attention. A small, brightly colored detail on an otherwise neutral-colored garment is a classic application of this principle. The high contrast between the small detail and the large, neutral area naturally attracts the eye, giving the design a clear sense of hierarchy and preventing it from appearing monotonous. Effective use of emphasis allows a designer to highlight a particular area of interest or to communicate a specific design theme, making the apparel more visually engaging.

219. (B) Technology is a major driver of fashion change from fiber to e-commerce.
The relationship between fashion and technology is profound and multi-faceted, with technology serving as a major driver of change throughout the entire industry. This influence begins at the molecular level with the development of innovative new fibers and fabrics and continues through the manufacturing process with the use of advanced CAD/CAM and automated sewing systems. Furthermore, technology has revolutionized how fashion is marketed and sold, from the rise of e-commerce to the impact of social media and digital marketing. Understanding this pervasive influence is essential for any professional in the modern and rapidly evolving global fashion industry.

220. (B) P-2, Q-4, R-1, S-3
Identifying the correct pattern alteration for specific fit problems is a key skill for professional pattern makers. If the waistline rides up, the bodice needs lengthening. A Full Bust Adjustment (FBA) is necessary if the bodice is tight and pulls up at the front. Horizontal wrinkles above the buttocks typically require a swayback adjustment. Finally, a sleeve that is too low simply needs shortening. Understanding these relationships between garment fit and pattern dimensions allows for the creation of well-fitted apparel that accommodates the unique curves and proportions of the individual human figure.

221. (C) Sews garments from pre-cut fabric provided by the client.
A "Cut, Make, and Trim" (CMT) unit is a specific type of factory in the apparel manufacturing industry. These units are primarily responsible for the assembly stage of production. They take pre-cut fabric pieces and any necessary trims (like buttons and zippers) provided by their client and sew them into finished garments. This specialized model allows brands to focus on design and marketing while outsourcing the labor-intensive assembly process to efficient manufacturing facilities. CMT units are a vital part of the global supply chain, providing the essential sewing expertise needed to bring fashion designs from the pattern stage to the final wearable product.

222. (B) Different parts of the same garment have slightly different shades of the same color.
"Shade variation" is a quality defect that occurs when different components of the same garment, such as a sleeve and the main bodice, have slightly different shades of the same color. This problem typically arises when fabric pieces are cut from different dye lots or when there is an inconsistency in the dye process within a single roll of fabric. Shade variation is a major concern in apparel manufacturing, as it is highly visible and results in a product that appears unprofessional and low-quality. Manufacturers must carefully manage their cutting and assembly processes to ensure color consistency across all parts of a finished garment.

223. (B) Fold them and store them flat on a shelf or in a drawer.
Proper storage is essential for preserving the shape and quality of knitted garments like heavy

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provides flattering options for diverse physical forms.

236. (A) 1 and 2 only
Pattern making and garment construction require a variety of tools for different purposes. Tracing wheels and tailor's chalk are primarily used for marking. A tracing wheel transfers pattern lines onto paper or fabric, while tailor's chalk is used to make temporary marks directly on the material. In contrast, a French curve is a drafting tool used to draw smooth, accurate curves, and a notcher is a mechanical tool used to cut small, precise notches into the edges of paper patterns. Distinguishing between marking, drafting, and cutting tools is essential for maintaining precision and efficiency throughout the entire design and manufacturing process.

237. (C) A collage of images, fabrics, and colors used to convey the theme and feeling of a collection.
A mood board is an essential creative tool used by designers to establish and communicate the aesthetic direction of a new collection. It is a visual collage that brings together a variety of elements, such as photographs, fabric swatches, color palettes, and even textures or small objects. The goal is to capture the "mood," theme, and overall feeling of the design concept. By seeing these elements together, the designer and their team can ensure that the final garments are cohesive and successfully communicate the intended vision. Mood boards are a vital part of the early research and development phase in professional apparel design.

238. (A) Haute Couture
Haute Couture represents the highest level of fashion, characterized by exquisite craftsmanship, exclusive designs, and personalized service. These garments are custom-made for an individual client, often requiring multiple fittings and hundreds of hours of hand labor by highly skilled artisans. Only a small number of prestigious fashion houses in Paris are officially designated as Haute Couture. These collections are sold at extremely high prices to a very limited and wealthy clientele. Beyond its commercial value, Haute Couture serves as a laboratory for innovation and creative expression, influencing the rest of the fashion industry and defining the standards of luxury and excellence.

239. (A) Style line or princess seam
Dart manipulation is a sophisticated technique in pattern making that allows designers to transform basic shaping into elegant style lines. A common application involves transferring the shaping of traditional bust and waist darts into a continuous seam, most notably the princess seam. This seam runs vertically over the bust point and down to the hem, providing a precise, three-dimensional fit without the need for visible darts. Princess seams create a lengthening and flattering silhouette and are a hallmark of tailored garments like jackets and dresses. This technique exemplifies how functional fit can be seamlessly integrated into a sophisticated and timeless design feature.

240. (B) Inspecting and grading the quality of fabric.
The 4-point system is a widely recognized and standardized method used in the textile and apparel industry for inspecting and grading fabric quality. It works by assigning penalty points (from 1 to 4) to various fabric defects—such as holes, stains, or slubs—based on their size and severity. The total points for a specific roll of fabric are then calculated to determine its overall grade. This objective and numerical approach allows manufacturers and buyers to communicate clearly about fabric quality and to set standards for what is acceptable for production. The 4-point system is essential for maintaining consistency and ensuring high-quality final products.

241. (C) Statement I is true, but Statement II is false.
Proper storage is a key principle of clothing care that can significantly extend the life and appearance of garments. Cleaning items before storage is essential to prevent permanent stains and to deter pests. However, the idea that all fabrics should be stored on hangers is incorrect. While hanging is suitable for many items, heavy knitted garments and some very delicate silks can be stretched and distorted by their own weight if hung for a long time. These items are much better stored flat and folded. Understanding the best storage method for each specific fabric type is vital for maintaining the structural integrity and aesthetic quality of a wardrobe.

242. (B) P-3, Q-2, R-4, S-1
Selecting appropriate clothing requires a deep understanding of the unique physiological, psychological, and functional needs of each age

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needed for function, and "design ease," which is additional fullness added to create a specific style or silhouette. Properly managing the amount of ease is essential for creating apparel that is both comfortable and aesthetically pleasing.

230. (C) Selvage
The selvage is the factory-finished edge of a piece of woven fabric that runs parallel to the warp yarns. It is created during the weaving process to prevent the fabric from unraveling or fraying. The selvage is typically firmer and more tightly woven than the rest of the material and often contains important information like the manufacturer's name, fiber content, or color markings. In pattern making, the selvage serves as a critical reference point for the "grainline," ensuring that the pattern pieces are oriented correctly on the fabric for the best drape and structural integrity of the finished garment.

231. (C) In-process quality control
In-process quality control (IPQC) is a proactive approach to quality management in apparel manufacturing. It involves performing regular checks and inspections on garments while they are still on the sewing line and in various stages of assembly. The goal is to identify and correct any errors or defects—such as skipped stitches or uneven seams—as early as possible. By catching problems early, manufacturers can prevent the waste of more material and labor, significantly reducing the number of final rejects and ensuring that the overall quality of the production lot remains high and consistent throughout the entire manufacturing process.

232. (C) Give fabrics like denim a softer feel and a slightly worn look.
An enzyme wash is a popular laundry finish used in the apparel industry, particularly for denim and other sturdy cotton fabrics. It involves using specialized enzymes, such as cellulase, to break down some of the surface fibers of the textile. This process results in a significantly softer and more comfortable hand-feel and creates a subtly worn, aged, or distressed appearance that is highly valued in casual fashion. Unlike traditional stone washing, enzyme washing is more environmentally friendly and less damaging to the fabric's overall strength, making it a preferred method for achieving this popular aesthetic.

233. (B) Manage moisture and allow for stretch
The performance requirements for athletic wear are highly specific, prioritizing functional excellence during vigorous physical activity. The most critical factors are moisture management and the ability to stretch and recover. Technical fabrics are engineered to wick sweat away from the skin to the surface for rapid evaporation, keeping the athlete dry and comfortable. Additionally, the fabric must possess significant elasticity to allow for a full range of motion without restriction or breakage. These properties are essential for enhancing performance, preventing chilling, and ensuring the overall comfort and durability of high-performance sportswear in a wide variety of demanding conditions.

234. (C) Any characteristic, number, or quantity that can be measured or counted.
In the context of research, a "variable" is a fundamental concept referring to any characteristic, quantity, or number that can be measured or counted. Variables are the "things" that researchers study to see how they change or how they are related to each other. For example, in an apparel study, variables might include fabric weight, stitch density, or consumer satisfaction levels. Understanding the different types of variables—such as independent and dependent—is essential for designing a study, collecting data, and drawing reliable conclusions from the research findings. Variables provide the objective data needed to test hypotheses and advance knowledge.

235. (B) Shoulders and bust being wider than the hips.
The inverted triangle body shape is a common figure type characterized by an athletic and top-heavy silhouette. In this body shape, the shoulder and bust measurements are significantly wider than the hip measurements, and the waistline is often less defined. This anthropometric profile is the opposite of the pear shape. Understanding these proportions is essential for designers and retailers when recommending styles. For example, using flared skirts or adding volume to the lower body can help create a more balanced and visually harmonious look. This knowledge ensures that fashion remains inclusive and

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A sloper, also known as a basic block, is the most fundamental and essential tool in flat pattern making. It is a two-dimensional template that represents the exact dimensions and proportions of the human figure, drafted with minimal ease and no decorative features. The sloper serves as the reliable foundation upon which all other designs are built. By manipulating the darts, seams, and style lines of this base template, designers can create a wide variety of fashionable and well-fitting garments while maintaining consistent sizing. The sloper ensures that the complex three-dimensional shaping required for the body is always technically accurate, making it a vital starting point.

249. (C) Designing the garment and creating the pattern.
The complex process of apparel manufacturing follows a logical and sequential flow that begins with the creative and technical planning stages. Before any fabric is touched, the designer must first conceptualize and sketch the garment. This is followed by pattern making, where the technical templates for each part of the garment are developed based on specific measurements. These initial steps are the most critical, as they serve as the blueprint for all subsequent stages, including marker making, cutting, sewing, and finishing. Starting with a clear design and an accurate pattern is essential for ensuring that the final product meets all quality and fit standards for the consumer.

250. (C) 1, 2, 3, and 4 only
Quality in apparel manufacturing is a multifaceted concept that is measured using several critical parameters. These include colorfastness to ensure the dyes are stable, seam strength for garment durability, and dimensional stability to prevent excessive shrinkage or stretching. Additionally, the fit of the garment on the human body is an essential quality indicator for the consumer. While the retail price is a major factor in marketing and purchasing decisions, it is not considered a technical quality parameter of the garment itself. Instead, the price is often influenced by the quality levels achieved in these other areas, reflecting the overall value and performance of the finished apparel product.

251. (B) To provide a scientific basis for body measurement to ensure garment fit and comfort.
Anthropometry involves the systematic measurement of the human body, serving as a critical foundation for apparel design. By capturing precise physical dimensions, designers ensure that garments achieve optimal fit, comfort, and functionality. This scientific approach facilitates the creation of individualized patterns and standardized sizing systems, bridging the gap between abstract design concepts and tangible three-dimensional clothing.

252. (A) Figure types are conceptual categorizations of body shapes derived from the analysis of anthropometric data.
Figure types represent specific categorizations of body shapes established through the analysis of proportional relationships, such as bust-waist-hip ratios. These classifications are directly derived from anthropometric data, which provides the necessary measurements to understand physical diversity. By identifying these types, manufacturers can address anatomical variations within the population, moving beyond idealized forms to cater to a wider demographic.

253. (C) facilitate the transition from a two-dimensional design to a three-dimensional, well-fitting product.
Accurate body measurements are essential for translating an abstract two-dimensional garment design into a well-fitting three-dimensional reality. This data informs the creation of precise patterns and the subsequent grading process across various sizes. By understanding the human physique through anthropometry, designers can ensure that the finished product accommodates the anatomical variations and functional needs of the intended wearer.

254. (D) The subject maintaining a natural and erect posture.
The standard procedure for obtaining body measurements requires the subject to stand in a natural, erect posture. This ensures that the dimensions captured reflect the body's true form during typical use, which is vital for garment fit. Using a flexible measuring tape allows for accurate tracking of key areas like the chest, waist, and hips while maintaining this stance.

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design features. This technique enables the creation of stylistic elements like gathers, tucks, or unique style lines without altering the basic fit of the original sloper. It provides a versatile way to generate multiple designs from a single template.

273. (D) It creates patterns based on mathematical calculations from body measurements.
Drafting is a highly technical pattern-making method that involves creating patterns from scratch using precise body measurements and mathematical calculations. This systematic approach relies on geometry to construct the various pieces required for a garment. By utilizing exact physical dimensions, drafting ensures a high degree of accuracy and precision, forming the basis for building structured templates that fit the human form.

274. (A) a basic pattern block used as a starting point in flat pattern making.
A sloper is a basic, pre-existing pattern block that represents a standard size and fits the body closely without design details. In flat pattern making, it serves as the essential foundation from which a wide variety of specific styles are developed through manipulation. By starting with a balanced sloper, designers can ensure consistent fit while focusing on creating diverse garment features.

275. (C) offers an efficient way to generate a wide variety of styles from a standardized base.
Flat pattern making is widely utilized in the apparel industry because it offers a highly efficient method for generating numerous styles from a standardized base. By manipulating a basic sloper through techniques like dart manipulation, designers can quickly create diverse silhouettes and features. This approach balances precision with production speed, making it ideal for the demands of mass garment manufacturing.

276. (A) Marker making and fabric cutting.
Pre-production in apparel manufacturing encompasses the essential steps taken before the actual sewing process begins. This phase includes fabric inspection to identify defects, pattern making, grading for different sizes, and marker making to optimize fabric use. Cutting the fabric panels according to the marker plan is also a critical pre-production activity that prepares the individual garment components for final assembly.

277. (D) the fabric type, required strength, and desired appearance.
The selection of specific seam types and corresponding sewing machines is determined by several critical factors, including the type of fabric being used and the required strength of the joint. Additionally, the desired aesthetic finish of the garment plays a major role in this decision. Manufacturers must align these technical requirements with the machine's capabilities to ensure both durability and quality.

278. (B) joining patch pockets or manufacturing denim apparel.
A lapped seam is a specific joint construction where two pieces of fabric are overlapped and stitched together. This seam type is particularly suitable for joining patch pockets to garments or for the heavy-duty construction required in denim apparel manufacturing. It provides structural durability and a distinct aesthetic finish that is appropriate for functional clothing and materials that undergo significant wear.

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279. (C) ensuring clear communication and consistency on the production floor.
Standardized terminology is vital on the production floor of an apparel manufacturing facility to facilitate clear and effective communication among workers. It ensures that everyone understands instructions regarding stitch types, seam allowances, and garment components. This linguistic consistency minimizes errors, enhances operational efficiency, and helps maintain a high standard of quality across the entire mass production process of finished apparel.

280. (D) Finishing and pressing.
Finishing and pressing constitute the final stage of the apparel manufacturing process after the core assembly of components is complete. During this phase, garments undergo a thorough inspection for defects and are trimmed of any loose threads. Professional pressing ensures the product achieves a crisp, polished final appearance, preparing it for the retail environment and ensuring it meets quality standards.

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both sides of a jacket front provides stability and order. This principle ensures that visual weight is evenly distributed, resulting in a traditional and harmonious appearance in the garment.

264. (D) all the individual design elements and principles are integrated into a unified whole.
Harmony in apparel design occurs when all individual elements and principles are integrated into a cohesive and unified whole. It represents the successful collaboration of line, shape, color, and texture with principles like balance, proportion, and rhythm. When these factors work together effectively, the resulting garment possesses a pleasing aesthetic quality and a sense of completeness that avoids visual discord.

265. (A) the elements and principles of design.
The strategic placement and design of specific garment parts, such as collars, cuffs, and hemlines, represent a practical application of design elements and principles. Designers manipulate these components to achieve desired aesthetic outcomes, such as creating rhythm or defining a silhouette. This deliberate use of structural details ensures that every part of the garment contributes to the overall visual harmony.

266. (B) Trickle-up theory
The trickle-up theory of fashion adoption describes a process where innovations and trends originate from street styles, youth subcultures, or lower socioeconomic groups. These styles eventually gain recognition and are adopted by mainstream fashion and high-end designers. This directional movement reflects the influence of grassroots culture on the broader fashion landscape, contrasting with traditional top-down models of trend dissemination and acceptance.

267. (B) 'Style' is a distinctive design, while 'fashion' is a style that is currently popular.
A style is defined as a distinctive type of garment characterized by specific features that remain recognizable regardless of current popularity. Fashion, conversely, refers to a style that has gained widespread acceptance and is currently utilized by a majority within a group. While a style identifies a unique design, its status as fashion depends on its current position within the fashion cycle.

268. (A) Culmination
The culmination stage of the fashion cycle represents the period when a style reaches its absolute peak of popularity and widespread acceptance. During this phase, the garment is produced in mass quantities and is available across various price points. This follows the introduction and rise stages and precedes the eventual decline and obsolescence of the style as consumer preferences shift toward new trends.

269. (C) predict the future direction of styles, colors, and fabrics.
Fashion forecasting is a critical process aimed at predicting future trends in colors, fabrics, silhouettes, and styles. By analyzing various social, economic, and technological influences, forecasters provide insights that help designers and manufacturers prepare for upcoming seasons. This proactive approach allows the industry to align production with anticipated consumer demand, ensuring that new collections resonate with current cultural and aesthetic shifts.

270. (D) a wide range of social, economic, and technological factors.
Fashion is a dynamic phenomenon deeply influenced by a wide array of external factors, including technological advancements, economic conditions, and social changes. Global events and cultural shifts also play a significant role in determining the pace and direction of fashion movement. Consequently, fashion acts as a complex reflection of contemporary culture, constantly evolving in response to the world surrounding it.

271. (C) Draping
Draping is an artistic and intuitive pattern-making technique where fabric is directly manipulated and pinned onto a three-dimensional dress form. This process allows the designer to see the garment's structure take shape in real-time. Once the desired look is achieved, the fabric is marked and then transferred to paper to create a final, flat pattern for cutting and assembly.

272. (B) create different stylistic features while maintaining the original fit.
Dart manipulation is a fundamental skill in flat pattern making that allows designers to move, combine, or convert triangular folds into various

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Q. Organizing
R. Supervision
S. Evaluation
List II: (Activity)
1. Assessing the outcomes against the goals
2. Overseeing the work of subordinates
3. Establishing a structure of roles and responsibilities
4. Defining future objectives and strategies
Codes:
(A) P-1, Q-2, R-3, S-4
(B) P-4, Q-3, R-2, S-1
(C) P-4, Q-2, R-3, S-1
(D) P-3, Q-4, R-1, S-2

18. The process of arranging and allocating work, authority, and resources among an organization's members to achieve goals is known as:
(A) Organizing
(B) Controlling
(C) Evaluation
(D) Planning

19. Read the following statements and select the correct option.
Statement I : The family life cycle describes the distinct stages a family progresses through over time.
Statement II : The availability and use of resources remain constant throughout all stages of the family life cycle.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

20. Consider the following functions of management:
1. Planning
2. Socializing
3. Organizing
4. Evaluation
5. Controlling
Which of the above statement(s) is/are correct?
(A) 1, 2, 3, and 4
(B) 1, 3, 4, and 5
(C) 2, 3, 4, and 5
(D) 1, 2, 4, and 5

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21. A family with young children will likely prioritize spending on education and healthcare, while a retired couple might prioritize travel and health maintenance. This variation in spending demonstrates the impact of what on resource use?
(A) Work simplification techniques
(B) Municipal solid waste management
(C) The family life cycle stage
(D) Standard marks on products

22. What is 'supervision' in the context of management functions?
(A) The process of setting long-term strategic and organizational goals.
(B) The direct oversight and guidance of ongoing work and performance.
(C) The final summative assessment of a completed project's success.
(D) The formal allocation of various departmental financial resources.

23. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A) : The 'evaluation' function is critical for continuous improvement in management.
Reason (R) : Evaluation involves comparing actual outcomes with planned objectives to identify deviations and successes.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

24. The availability and use of resources for a family are most directly influenced by:
(A) The family's life cycle stage and its specific goals.
(B) The national economic policy and government legislation.
(C) The types of standard marks available on household products.
(D) The entrepreneurship motivation of individual family members.

281. (A) Standards are broad benchmarks, while specifications are detailed, measurable criteria.
Quality standards act as broad benchmarks of excellence that guide the overall production process, while quality specifications provide the detailed and measurable criteria a product must specifically meet. Standards set the general expectation for quality, whereas specifications translate these expectations into concrete data points, such as specific measurements or performance levels. Both frameworks are essential for maintaining consistency and product integrity.

282. (B) retains its original size and shape after being washed.
Dimensional stability is a key quality parameter that measures a garment's ability to retain its original size and shape after undergoing laundering. Testing for this property ensures that the clothing will not shrink or stretch excessively during use, which is critical for maintaining correct fit over time. Consistent dimensional stability reflects the high quality of both the fabric and manufacturing.

283. (B) Slubs
Slubs are identified as a specific type of fabric defect characterized by noticeably thick places within the yarn. Other common material flaws include neps, which are small knots of entangled fibers, and various color variations across the fabric surface. Recognizing these defects during the inspection process is crucial for ensuring that the raw materials meet the required standards for quality.

284. (A) tensile strength.
Tensile strength is a physical property of fabric that measures its resistance to breaking when subjected to tension or pulling. This test determines the amount of force the material can withstand before failing. Evaluating tensile strength is vital for predicting the durability and performance of a garment, especially in areas that experience high stress during wear or repeated industrial laundering.

285. (C) ensure the final product meets pre-determined criteria for performance, appearance, and durability.
The primary objective of apparel quality testing is to ensure that the final product consistently meets pre-determined criteria for performance, appearance, and durability. By identifying fabric and garment defects and assessing physical properties through rigorous testing, manufacturers can maintain high excellence. This systematic evaluation guarantees that garments are acceptable for consumers and perform reliably throughout their expected usable life cycle.

286. (D) bleaching, softening, and rinsing.
The principles of washing encompass various stages and treatments designed to effectively clean and maintain garments. Processes such as bleaching help remove stains and whiten fabrics, while softening agents improve the tactile feel of the material. Rinsing is the critical final action that removes cleaning agents and loosened soil, ensuring the garment is safe for skin contact.

287. (C) To provide standardized instructions for proper maintenance.
Care labels and symbols are essential garment components that provide internationally recognized, standardized instructions for proper maintenance. These labels guide consumers on correct washing, bleaching, drying, ironing, and dry cleaning methods based on fiber content and construction. Following these instructions is crucial for preventing fabric damage, ensuring the garment's longevity, and maintaining its appearance through repeated cleaning cycles.

288. (B) clean the garments before storing them.
For effective long-term storage, it is essential to clean garments thoroughly before putting them away. This prevents stains from setting over time, which can become permanent or attract harmful pests like insects. Storing clothing in a clean, dry, and dark environment further protects the fibers from damage caused by moisture, sunlight, and humidity, preserving the garment's quality for future use.

289. (D) bleach.
Bleaches are specialized laundry agents used primarily for whitening fabrics and removing stubborn stains. These chemicals can be either chlorine-based or oxygen-based, with each type requiring careful application to avoid damaging

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CHAPTER 05

Resource Management and Consumer Issues

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1. In the context of resource management, what is the best definition of 'management'?
(A) The uncoordinated accumulation of resources without having specific organizational goals.
(B) The process of achieving organizational goals through planning, organizing, leading, and controlling.
(C) The act of delegating all essential tasks to subordinates without any direct supervision.
(D) The exclusive and narrow focus on the maximization of short-term financial profits.

2. Which of the following statements accurately describes an 'approach' to management?
(A) It is a specific perspective or a way of thinking about and executing management tasks.
(B) It is a rigid, unchangeable set of rules meant to be applied in all organizational situations.
(C) It refers exclusively to the historical development of management thought through the ages.
(D) It is synonymous with a single management function such as planning or organizational control.

3. A family decides to create a schedule for household chores to ensure everyone contributes and tasks are completed on time. This is a direct application of managing which resource?
(A) Space
(B) Energy
(C) Time
(D) Money

4. Which of the following is NOT considered a primary resource to be managed?
(A) Time
(B) Energy
(C) Money
(D) Emotional intelligence

5. Match the items in List I with those in List II.
List I: (Resource)
P. Time
Q. Energy
R. Money
S. Space
List II: (Management Focus)
1. Budgeting and investment
2. Ergonomics and fatigue reduction
3. Scheduling and prioritizing
4. Layout and organization
Codes:
(A) P-3, Q-2, R-1, S-4
(B) P-1, Q-3, R-4, S-2
(C) P-3, Q-1, R-2, S-4
(D) P-4, Q-2, R-1, S-3

6. What are the factors that drive individuals to act and achieve goals?
(A) Management functions
(B) Motivating factors
(C) Family life cycle stages
(D) Work simplification techniques

7. Read the following statements and select the correct option.
Statement I : Motivation theories provide frameworks for understanding why people behave in certain ways in an organizational context.
Statement II : Management of resources is independent of the motivation of the individuals involved.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is

Experimental research is defined by the deliberate manipulation of an independent variable to observe its specific effect on a dependent variable. This method allows researchers to establish cause-and-effect relationships between different factors, such as textile finishes and fabric performance. By using controlled conditions and systematic observation, experimental studies provide a scientific basis for testing the effectiveness of new techniques and materials.

299. (B) A researcher treats one batch of cotton fabric with a new finish and leaves another untreated to compare their water-repellency.
Treating one batch of fabric with a new finish while leaving another untreated to compare their performance perfectly exemplifies experimental research. This process involves manipulating an independent variable, the finish, to observe its direct effect on a dependent variable, such as water-repellency. This controlled comparison allows researchers to scientifically validate the effectiveness of specific innovations or modifications in apparel production.

300. (A) decisions and innovations that are based on evidence and analysis.
Applying formal research methods within the apparel industry ensures that decisions and innovations are grounded in objective evidence and rigorous analysis. By moving beyond intuition and subjective preferences, this scientific approach allows the field to solve complex problems and adapt to changing market demands effectively. It encompasses various disciplines like material science and ergonomics to improve garment quality, functionality, and consumer satisfaction.

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delicate fibers. When used correctly, bleach restores the brightness of white items and eliminates discolorations, serving as a powerful supplement to standard detergents during the chemical action of washing.

290. (A) permanent fabric damage.
Applying chlorine bleach to a garment labeled with a "Do Not Bleach" symbol can result in permanent and irreversible fabric damage. The harsh chemicals in bleach can weaken or dissolve fibers, cause yellowing, or destroy dyes, compromising the structural integrity and appearance of the clothing. Adhering to care labels is vital to prevent such degradation and ensure the product remains usable.

291. (C) Safety, comfort, and ease of care.
When selecting clothing for infants, primary considerations include safety, comfort, and ease of care. Garments must be made from soft, non-irritating, and absorbent fabrics to protect sensitive skin. Furthermore, designs should eliminate small, detachable parts to prevent choking hazards and incorporate features that facilitate easy dressing and diaper changes, ensuring the well-being of the infant and convenience for caregivers.

292. (A) moisture-wicking, stretch, and breathability.
Fabrics chosen for sportswear must possess specific functional properties like moisture-wicking, stretch, and breathability to accommodate intense physical activity. These features ensure that sweat is efficiently moved away from the skin, the garment allows for a full range of movement, and air circulation is maintained to regulate body temperature. Such considerations are fundamental for optimizing the performance and comfort of athletic apparel.

293. (D) peer group acceptance and the search for identity.
Clothing selection for adolescents is uniquely driven by the influence of peer groups and a desire for self-expression and identity. During this life stage, fashion choices and brand identity often serve as tools for social belonging and personal branding. Unlike the practical priorities of other age groups, adolescent apparel selection is heavily centered on navigating social landscapes and establishing a distinct personality.

294. (B) workwear prioritizes function while evening wear prioritizes aesthetics.
A key distinction in fabric selection involves the differing priorities of workwear and evening wear based on their intended end use. Workwear typically requires high durability, stain resistance, and functional safety features to withstand rigorous daily tasks. In contrast, evening wear prioritizes aesthetic qualities such as luster, drape, and texture, often sacrificing performance and durability for visual impact and formal elegance.

295. (C) The elderly
Adaptive clothing features, such as simple fastenings and designs that provide ease of movement, are most closely associated with the elderly. These specialized elements address the physical challenges and mobility issues often faced by this demographic. By prioritizing simplicity and comfort, adaptive apparel ensures that clothing remains functional and easy to wear, supporting independence and well-being in later stages of life.

296. (D) To systematically determine the validity of a testable prediction.
Hypothesis testing is a cornerstone of empirical inquiry, used to systematically determine the validity of a proposed explanation for a specific phenomenon. By formulating a testable prediction about the relationship between variables, researchers can collect and analyze data to either support or refute the claim. This rigorous process ensures that knowledge within apparel design is built upon evidence rather than intuition.

297. (A) Descriptive research
Descriptive research aims to accurately portray and report the characteristics of a specific population or phenomenon without manipulating variables. A study documenting the clothing preferences of urban youth falls into this category, as its primary goal is providing a detailed snapshot of consumer behavior. Such research provides valuable data for informing marketing strategies and understanding contemporary trends within the industry.

298. (B) It involves the manipulation of a variable to observe its effect on another.

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incorrect.
(D) Statement I is incorrect, but Statement II is correct.

8. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A) : Effective decision-making is a cornerstone of successful management.
Reason (R) : Decision-making involves choosing a course of action from among several alternatives to achieve a desired result.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

9. What is the most crucial first step in the process of decision making?
(A) Evaluating the alternatives
(B) Implementing the chosen solution
(C) Identifying and defining the problem
(D) Selecting the best alternative

10. Which statement about the management of 'space' is incorrect?
(A) It is relevant only in commercial and industrial settings, never in domestic households.
(B) It involves optimizing the layout of a living or work area to maximize productivity.
(C) Poor space management can lead to significant inefficiency and unnecessary clutter.
(D) It aims to improve functionality and flow within a given physical environment.

11. Consider the following statements regarding 'motivating factors' in management:
1. They are external pressures exclusively.
2. They are internal drives that direct behavior.
3. Understanding them is crucial for effective leadership.
4. They can be intrinsic or extrinsic.
Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 2, 3 and 4
(C) 1 and 4
(D) 1 and 3

12. A student uses a planner to allocate specific hours for studying, leisure, and sleep. This is an example of applying management principles to:
(A) Money
(B) Time
(C) Space
(D) Human Resources

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13. A person feels constantly tired and unable to complete daily tasks effectively. This indicates poor management of which personal resource?
(A) Poor management of financial money
(B) Poor management of physical space
(C) Poor management of personal energy
(D) Poor management of social contacts

14. Arrange the core functions of management in their logical sequence:
1. Controlling
2. Organizing
3. Planning
4. Evaluation
Choose the correct sequence from the options below:
(A) 3, 2, 1, 4
(B) 2, 3, 1, 4
(C) 1, 2, 3, 4
(D) 3, 1, 2, 4

15. Which function of management involves setting goals and determining the best course of action to achieve them?
(A) Planning
(B) Organizing
(C) Controlling
(D) Supervision

16. Which of the following best describes the 'controlling' function of management?
(A) It involves motivating employees to work harder to meet high expectations.
(B) It is the process of monitoring performance and taking necessary corrective action.
(C) It is about assigning specific tasks and formal authority to organization members.
(D) It is exclusively focused on performing regular financial auditing and accounting.

17. Match the items in List I with those in List II.
List I: (Function)
P. Planning

255. (C) develop standardized sizing systems that cater to diverse body shapes.
In mass production, anthropometric data serves as the foundation for developing standardized sizing systems that accommodate a diverse range of body shapes. By analyzing proportional relationships and figure types, manufacturers can create garments that fit a broad population accurately. This systematic use of measurement data ensures consistency and functional comfort across different sizes, moving beyond a single idealized form.

256. (B) To finish raw fabric edges and construct seams in knitwear.
Overlock machines, also known as sergers, are specialized pieces of equipment primarily used to finish raw fabric edges to prevent fraying. These machines are particularly essential in the construction of knitwear, where they create durable and flexible seams. By simultaneously trimming excess fabric and encasing the edge with thread, they ensure a professional, secure, and clean garment interior.

257. (D) They automate complex tasks, enhancing productivity and consistency.
Specialized attachments significantly enhance the versatility and productivity of sewing machines by automating complex manual operations. Tools like hemmers, binders, and buttonholers allow for the precise execution of time-consuming tasks with high consistency. This advancement reduces the level of manual skill required for specific details, resulting in higher production speeds and improved quality across the entire apparel manufacturing process.

258. (A) Creating a seam on a pair of stretch-denim jeans or sportswear.
Chain stitch machines are specifically designed to produce seams that possess a high degree of flexibility. This characteristic makes them exceptionally suitable for garments made from stretch fabrics, such as denim jeans or sportswear, where the seams must withstand movement without breaking. The unique loop structure of the stitch allows it to expand and contract along with the material.

259. (C) effective operation and maintenance of the sewing equipment.
Understanding the specific functions of sewing machine components, such as the needle bar, presser foot, feed dog, and tension discs, is fundamental for operators. This technical knowledge is necessary for the effective operation of the equipment and for performing routine maintenance. Mastery of these parts ensures that the machinery runs smoothly, produces high-quality stitches, and avoids frequent mechanical issues.

260. (A) There is a significant trend towards automation and specialization to improve efficiency.
The apparel industry is increasingly moving toward greater automation and specialization to enhance production efficiency and quality. This evolution is marked by the development of diverse specialized machines and sophisticated attachments that perform specific tasks with high precision. These advancements allow manufacturers to achieve consistency and speed, moving beyond basic manual processes to meet the demands of modern garment construction.

261. (D) Emphasis
Emphasis is a design principle used to establish a focal point within a garment, intentionally drawing the viewer's attention to a specific area. This is achieved by strategically manipulating elements like color, texture, or shape to create visual interest. By creating a center of attraction, the designer can control how the eye moves across the ensemble, ensuring a balanced composition.

262. (B) fundamental components or tools for a designer.
Line, shape, color, and texture are the primary elements of design, acting as the fundamental tools available to a designer. These components are used to define silhouettes, create visual movement, evoke psychological moods, and add tactile depth to fabrics. They form the basic building blocks that are subsequently organized through design principles to create aesthetically successful and structurally sound apparel.

263. (C) Symmetrical balance
Symmetrical balance, often referred to as formal balance, is achieved when identical design elements are placed on either side of a central vertical axis. Arranging identical pockets on

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25. Which pair correctly links a family life cycle stage with a likely resource demand?
(A) Beginning family - High expenditure on higher education for children.
(B) Contracting family (empty nest) - Peak demand for childcare facilities.
(C) Expanding family (with school-age children) - Increased need for space and money for education.
(D) Retired couple - Major expense on setting up a new household.

26. The organizing function of management includes all of the following activities EXCEPT:
(A) Monitoring performance against standards.
(B) Determining what tasks are to be done.
(C) Establishing reporting relationships.
(D) Grouping tasks into departments.

27. Consider the following statements about the family life cycle:
1. It provides a framework for understanding family changes over time.
2. Financial needs are typically highest in the beginning stage.
3. The stages are universally the same for every family in every culture.
4. Resource allocation strategies change as the family moves from one stage to another.

Which of the above statement(s) is/are correct?
(A) 1 and 4
(B) 2 and 3
(C) 1, 2 and 3
(D) 2, 3 and 4

28. The management function that serves as a bridge between planning and controlling is:
(A) Evaluation
(B) Organizing
(C) Supervision
(D) Motivation

29. When a manager checks the weekly production report to see if the team is on track to meet its monthly target, they are engaging in which management function?
(A) Planning
(B) Organizing
(C) Controlling
(D) Motivating

30. The final function in the management process, which assesses the degree to which goals have been accomplished, is called:
(A) Supervision
(B) Planning
(C) Organizing
(D) Evaluation

31. Resources can be broadly understood through their:
(A) Classification, characteristics, and factors affecting use.
(B) Price, color, and brand name.
(C) Origin, political impact, and social status.
(D) Marketing strategy and distribution channel.

32. Match the items in List I with those in List II.
List I: (Characteristic)
P. Utility
Q. Accessibility
R. Interchangeability
S. Manageability
List II: (Description)
1. The ease with which a resource can be obtained and used.
2. The quality of being subject to control or direction.
3. The ability of a resource to satisfy a want or need.
4. The ability of a resource to be substituted by another.

Codes:
(A) P-1, Q-3, R-2, S-4
(B) P-3, Q-1, R-4, S-2
(C) P-2, Q-4, R-1, S-3
(D) P-3, Q-2, R-4, S-1

33. Which statement regarding 'resource conservation' is incorrect?
(A) It involves using resources wisely to prevent depletion.
(B) It is only applicable to natural resources like water and forests.
(C) It can apply to personal resources like energy and time.
(D) It promotes sustainability for future generations.

34. A homemaker rearranges the kitchen so that frequently used items are within easy reach,

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as salary or wages.
(C) Supplementing income helps a family achieve financial goals faster.
(D) It is the foundation for a family's financial planning and security.

71. Arrange the steps of the budgeting process in a logical sequence:
1. Monitor spending and compare with the budget.
2. Set financial goals.
3. Estimate income and expenses.
4. Create the budget by allocating funds.

Which of the following represents the correct sequence?
(A) 2, 3, 4, 1
(B) 1, 2, 3, 4
(C) 3, 2, 1, 4
(D) 2, 4, 3, 1

72. A person choosing to put money into a mutual fund instead of a regular savings account is engaging in an act of:
(A) Investment
(B) Budgeting
(C) Income supplementation
(D) Keeping household accounts

73. The detailed record-keeping of all money coming in and going out of a household is known as:
(A) Budgeting
(B) Investing
(C) Household accounts
(D) Tax planning

74. Consider the following items:
1. Buying stocks and bonds.
2. Purchasing real estate.
3. Depositing money in a fixed deposit.
4. Buying a lottery ticket.
5. Investing in a child's higher education.

Which of the above statement(s) is/are correct regarding forms of family investment?
(A) 1, 2, 3, and 5
(B) 1, 2, 4, and 5
(C) 2, 3, 4, and 5
(D) 1, 2, 3, and 4

75. Which pair correctly links a financial term with its purpose?
(A) Budget - To speculate on market trends.
(B) Savings - To provide security and meet future goals.
(C) Investment - To track past expenses only.
(D) Tax Implications - To evaluate the impact of tax on income.

76. Which of the following is a primary function of Human Resource Management (HRM)?
(A) Marketing and sales
(B) Manpower planning
(C) Product design
(D) Financial auditing

77. 'Manpower planning' in HRM refers to the process of:
(A) Conducting daily supervision of employees.
(B) Evaluating the performance of training programs.
(C) Estimating future human resource requirements.
(D) Setting the annual budget for the HR department.

78. Match the items in List I with those in List II.
List I: (HRM Activity)
P. Manpower Planning
Q. Training Need Assessment
R. Training Methodologies
S. Training Evaluation
List II: (Description)
1. The specific techniques used to impart skills (e.g., lectures, simulations).
2. Measuring the effectiveness and impact of a training program.
3. Forecasting the supply and demand for labor.
4. Identifying performance gaps to determine if training is the solution.

Codes:
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-2, S-1
(C) P-4, Q-3, R-1, S-2
(D) P-3, Q-4, R-1, S-2

79. What is the primary 'need' for Human Resource Management in an organization?
(A) To effectively utilize human capital to achieve organizational goals.
(B) To organize social events and annual parties for company employees.
(C) To exclusively handle legal disputes with

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4. Allocate specific time slots for prioritized tasks.

Which of the following represents the correct sequence?
(A) 2, 3, 4, 1
(B) 1, 2, 3, 4
(C) 3, 2, 1, 4
(D) 2, 4, 3, 1

44. Using a pressure cooker to cook lentils instead of an open pot primarily saves which two resources?
(A) Money and Space
(B) Time and Energy (fuel)
(C) Space and Time
(D) Water and Money

45. The classification of resources helps in:
(A) Calculating the exact monetary value of every asset.
(B) Complicating the process of management unnecessarily.
(C) Understanding their nature and how they can be managed.
(D) Eliminating the need for planning and organizing.

46. Which of the following is NOT a natural resource for management?
(A) Land
(B) Forest
(C) Water
(D) Data

47. Match the items in List I with those in List II.
List I: (Natural Resource)
P. Land
Q. Forest
R. Water
S. Air
List II: (Management Issue)
1. Pollution from industrial emissions
2. Deforestation and biodiversity loss
3. Soil erosion and degradation
4. Scarcity and contamination
Codes:
(A) P-3, Q-2, R-4, S-1
(B) P-3, Q-4, R-1, S-2
(C) P-3, Q-2, R-4, S-1
(D) P-2, Q-3, R-1, S-4

48. What is 'water harvesting'?
(A) The process of purifying sea water through desalination.
(B) The collection and storage of rainwater for reuse.
(C) The transportation of water through long industrial pipelines.
(D) The commercial sale of filtered bottled drinking water.

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49. A city government implementing a program for segregating waste into 'wet' and 'dry' categories at the household level is addressing the issue of:
(A) Water harvesting
(B) Municipal solid waste management
(C) Air pollution control
(D) Forest conservation

50. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A) : Sustainable development aims to meet the needs of the present without compromising the ability of future generations to meet their own needs.
Reason (R) : The management of natural resources like land, water, and forests is a critical component of achieving sustainable development.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

51. The acronym 'SDGs' in the context of development refers to:
(A) Sustainable Departmental Goals
(B) Strategic Development Grants
(C) Sustainable Development Goals
(D) Standardized Departmental Guidelines

52. Which statement accurately reflects the concept of municipal solid waste management?
(A) It is solely the responsibility of individual households.
(B) It primarily focuses on recycling paper and nothing else.
(C) It is a process that has no impact on public health or the environment.

reducing the number of steps taken during cooking. This is a practical application of:
(A) Work simplification
(B) Financial budgeting
(C) Water harvesting
(D) Consumer empowerment

35. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A) : Work simplification techniques aim to accomplish tasks with minimum expenditure of time and energy.
Reason (R) : The 'classes of change' provide a systematic framework for analyzing and improving work methods.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

36. What is 'fatigue' in the context of resource management?
(A) A state of increased cognitive efficiency and high physical productivity.
(B) The systematic process of allocating financial resources for a new project.
(C) The internal psychological motivation required to start a challenging new task.
(D) A feeling of weariness or exhaustion resulting from physical or mental exertion.

37. What is the most effective approach to fatigue management?
(A) Ignoring the physical symptoms and continuing to work through them.
(B) Consuming high-caffeine beverages for a temporary energy boost.
(C) Identifying causes and implementing strategies like rest and simplification.
(D) Delegating all organizational tasks to others on a permanent basis.

38. Consider the following work simplification techniques related to 'classes of change':
1. Changes in hand and body motions.
2. Changes in work storage and equipment.
3. Changes in the product.
4. Changes in the raw materials.
5. Changes in the management hierarchy.

Which of the above statement(s) is/are correct?
(A) 1, 2, 3, and 5
(B) 2, 3, 4, and 5
(C) 1, 2, 3, and 4
(D) 1, 3, 4, and 5

39. The 'classes of change' are a framework associated with which management concept?
(A) Time management
(B) Budgeting
(C) Consumer protection
(D) Work simplification

40. Read the following statements and select the correct option.
Statement I : Time management involves prioritizing tasks and allocating time effectively.
Statement II : Effective time management can reduce stress and increase productivity.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

41. Which pair correctly matches a resource type with its classification?
(A) Time - Human Resource
(B) Money - Natural Resource
(C) Sunlight - Non-human Resource
(D) Skills - Material Resource

42. All of the following are factors affecting the use of resources EXCEPT:
(A) The brand name of the consumer cooperative.
(B) The stage in the family life cycle.
(C) The availability of the resource.
(D) The goals and values of the individual or family.

43. Arrange the steps of a basic time management process in a logical sequence:
1. Execute the plan and avoid procrastination.
2. List all tasks and activities to be done.
3. Prioritize tasks based on urgency and importance.

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List I: (Income Type)
P. Money Income
Q. Real Income
R. Psychic Income
S. Supplemented Income
List II: (Description)
1. Satisfaction derived from the use of goods and services.
2. Additional earnings from part-time jobs or hobbies.
3. The flow of goods and services available to the family.
4. The actual currency earned, such as salary or wages.
Codes:
(A) P-4, Q-3, R-1, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-1, R-3, S-2
(D) P-3, Q-4, R-2, S-1

63. A plan for managing a family's income and expenses over a period of time is known as a:
(A) Family budget
(B) Household account
(C) Tax implication
(D) Family investment

64. A family decides to rent out a spare room to a student to earn extra money. This activity is an example of:
(A) Family budgeting
(B) Income supplementation
(C) Tax calculation
(D) Making a family investment

65. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A) : Maintaining household accounts is a crucial part of effective money management.
Reason (R) : Household accounts provide a detailed record of income and expenditure, which helps in tracking financial health and creating realistic budgets.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

66. To meet future needs, emergencies, and long-term goals.
(A) To meet future needs, emergencies, and long-term goals.
(B) To spend more on luxury items.
(C) To reduce the total family income.
(D) To avoid paying taxes.

67. Read the following statements and select the correct option.
Statement I : Family investment involves using saved money to purchase assets with the expectation of generating future income or appreciation.
Statement II : Savings and investment are identical concepts in money management.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

68. Consider the following statements regarding a family budget:
1. It is a plan for future spending and saving.
2. Once made, it should never be adjusted.
3. It helps in controlling expenditure and avoiding debt.
4. It is only necessary for high-income families.
Which of the above statement(s) is/are correct?
(A) 1 and 3
(B) 2 and 4
(C) 1, 2 and 3
(D) 2, 3 and 4

69. The consequences of financial decisions on the amount of tax a family has to pay are referred to as:
(A) Household accounts
(B) Family savings
(C) Tax implications
(D) Budgeting

70. Which of the following is an incorrect statement about family income?
(A) It can be classified into different types, such as money, real, and psychic.
(B) Real income refers only to the cash received

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2. Case studies
3. Role-playing
4. On-the-job training
5. Manpower forecasting

Which of the above statement(s) is/are correct regarding 'training methodologies'?
(A) 1, 2, 3, and 5
(B) 2, 3, 4, and 5
(C) 1, 2, 3, and 4
(D) 1, 3, 4, and 5

89. Rapid technological changes in an industry lead to an increased 'need' for which HRM function?
(A) Stagnant manpower planning
(B) Reduced focus on HRD
(C) Continuous employee training and development
(D) Elimination of performance evaluation

90. The process of systematically determining the value and effectiveness of a training program is called:
(A) Training evaluation
(B) Training need assessment
(C) Manpower planning
(D) Employee orientation

91. Who is a 'consumer' according to general consumer protection principles?
(A) Any individual or entity that manufactures goods for commercial sale.
(B) Any person who resells goods for a primary commercial or industrial purpose.
(C) Any person who provides a professional service to others for a set fee.
(D) Any person who buys goods or avails services for personal use and consideration.

92. Which of the following is a fundamental 'right' of a consumer?
(A) The right to bargain unreasonably.
(B) The right to be informed about the quality and price of goods.
(C) The right to return any product at any time without reason.
(D) The right to demand goods for free.

93. Match the items in List I with those in List II.
List I: (Consumer Right)
P. Right to Safety
Q. Right to Choose
R. Right to be Heard
S. Right to Redressal
List II: (Description)
1. Access to a variety of goods and services at competitive prices.
2. Protection against marketing of hazardous goods.
3. Compensation for misrepresentation or unsatisfactory services.
4. Assurance that consumer interests will receive due consideration.

Codes:
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-2, Q-4, R-1, S-3
(D) P-3, Q-1, R-4, S-2

94. Which statement best describes a 'responsibility' of a consumer?
(A) A consumer is not required to read warning labels.
(B) A consumer has the responsibility to buy only the most expensive products.
(C) A consumer should not keep proof of purchase like bills or receipts.
(D) A consumer should be aware and ask questions about purchases.

95. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A) : Consumer education is essential for consumer empowerment.
Reason (R) : An educated consumer is better equipped to make informed choices, understand their rights, and seek redressal for grievances.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

96. The study of how individuals or groups select, buy, use, and dispose of goods, services, ideas, or experiences to satisfy their needs and wants is known as:
(A) Consumer empowerment
(B) Consumer behavior
(C) Consumer problems
(D) Consumer rights

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employees and contractors.
(D) To replace all human workers with high-efficiency automation.

80. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A) : Training Need Assessment is a critical first step before designing any training program.
Reason (R) : It helps to identify the specific skills and knowledge gaps that the training program needs to address, ensuring its relevance and effectiveness.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

81. Which statement about 'training methodologies' is correct?
(A) There is only one single best methodology for all training situations.
(B) Methodology choice depends on objectives, audience, and content.
(C) Training methodologies refer to the process of evaluating success.
(D) On-the-job training is not considered a valid training methodology.

82. An HR manager compares the pre-training and post-training performance scores of a sales team to measure the impact of a sales skills workshop. This is an example of:
(A) Training evaluation
(B) Manpower planning
(C) Training need assessment
(D) Human resource development challenge

83. Consider the following functions:
1. Manpower planning
2. Training and development
3. Production scheduling
4. Performance appraisal
Which of the above statement(s) is/are correct regarding Human Resource Management functions?
(A) 1, 2 and 4
(B) 1, 3 and 4
(C) 2 and 3
(D) 1, 2, 3 and 4

84. Human Resource Development (HRD) functions include all of the following EXCEPT:
(A) Employee training
(B) Career development
(C) Organizational development
(D) Marketing of the company's products

85. What does 'training need assessment' seek to identify?
(A) The specific budget available for corporate training.
(B) The most popular training vendors in the regional market.
(C) The performance gap between 'what is' and 'what should be'.
(D) The employees who are willing to travel for offshore training.

86. Read the following statements and select the correct option.
Statement I : HRM is solely concerned with the recruitment and selection of new employees.
Statement II : Human Resource Development (HRD) is a broader concept that focuses on the growth and development of employees for current and future roles.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is incorrect, but Statement II is correct.
(D) Statement I is correct, but Statement II is correct.

87. Which pair correctly links an HRM concept to its function?
(A) Manpower Planning - Firing employees arbitrarily.
(B) Training Methodologies - Assessing the need for training.
(C) HRD Challenges - Ignoring employee growth.
(D) Training Evaluation - Measuring program return on investment.

88. Consider the following items:
1. Lectures and seminars

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(A) 1, 2, 3, and 5
(B) 1, 2, 3, and 4
(C) 2, 3, 4, and 5
(D) 1, 3, 4, and 5

105. 'Consumer empowerment' means:
(A) Giving consumers the power to set prices for all goods.
(B) Forcing consumers to buy specific brands.
(C) Providing consumers with skills and knowledge to protect interests.
(D) A situation where consumers have no rights.

106. Institutions formed by consumers themselves to promote and protect their interests are known as:
(A) Consumer organizations
(B) Manufacturing associations
(C) Government tax agencies
(D) Marketing firms

107. What is a 'cooperative' in the context of consumer protection?
(A) A for-profit corporation owned by external investors.
(B) A government agency that sets national market prices.
(C) A mandatory organization that all consumers must join.
(D) An association of persons united to meet common economic needs.

108. Match the items in List I with those in List II.
List I: (Standard Mark)
P. ISI Mark
Q. Agmark
R. FPO Mark
S. Hallmark
List II: (Product Category)
1. Processed fruit products (jams, juices)
2. Precious metals (gold, silver)
3. Industrial and consumer durable products
4. Agricultural products
Codes:
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-1, S-2
(C) P-3, Q-1, R-4, S-2
(D) P-4, Q-3, R-2, S-1

109. A consumer is dissatisfied with a product and instead of going to court, they approach a 'Consumer Dispute Redressal Forum'. This is an example of using a mechanism for:
(A) Standardization
(B) Quality control
(C) Alternative redressal
(D) Product buying aid

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110. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A) : Standardization and standard marks like ISI or Agmark help protect consumers.
Reason (R) : These marks provide an assurance of conformity to specified quality standards, helping consumers make informed decisions and avoid substandard products.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

111. The main purpose of 'quality control' from a consumer's perspective is to:
(A) Ensure that products consistently meet certain standards of quality and safety.
(B) Increase the price of the product.
(C) Limit the variety of products available in the market.
(D) Make the manufacturing process more complex.

112. Which of the following is an example of a 'buying aid' for consumers?
(A) A misleading advertisement.
(B) A product review website or a consumer magazine report.
(C) A verbal promise from an unknown seller.
(D) The high price of a product, assuming it indicates quality.

113. Consider the following statements about consumer protection mechanisms:
1. Consumer legislation provides a legal framework for protecting consumer rights.
2. Standardization marks are mandatory for all products sold in India.
3. Consumer organizations play a role in education and advocacy.

97. All of the following are common consumer problems EXCEPT:
(A) Adulteration of food products.
(B) Being provided with too much accurate information.
(C) Misleading advertisements.
(D) Overcharging and incorrect weights and measures.

98. Consider the following statements related to consumer rights:
1. The right to safety from hazardous goods.
2. The right to be informed about product quality.
3. The right to seek redressal against unfair trade practices.
4. The right to receive any product for free.
Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 2, 3 and 4
(C) 1 and 4
(D) 1, 2, 3 and 4

99. What is the ultimate goal of consumer education and empowerment?
(A) To encourage consumers to stop buying products entirely.
(B) To teach consumers how to bargain for the lowest possible price.
(C) To create a marketplace where consumers are informed and vigilant.
(D) To shift all safety responsibility from the manufacturer to the user.

100. Read the following statements and select the correct option.
Statement I : The role of a consumer in a market economy is passive and insignificant.
Statement II : Consumers' choices and behaviors send signals to producers about what to produce.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is incorrect, but Statement II is correct.
(D) Statement I is correct, but Statement II is incorrect.

101. Arrange the following consumer actions in a logical sequence when faced with a defective product:
1. Approach the appropriate consumer redressal forum.
2. Contact the seller/manufacturer with the proof of purchase.
3. Send a formal legal notice if the initial complaint is not addressed.
4. Stop using the defective product to prevent further damage.
Which of the following represents the correct sequence?
(A) 2, 1, 3, 4
(B) 4, 2, 3, 1
(C) 1, 2, 3, 4
(D) 4, 3, 2, 1

102. A person carefully reading the ingredients list, nutritional information, and manufacturing date on a food package before buying it is exercising which consumer right and responsibility?
(A) Right to choose and responsibility to be critical.
(B) Right to be informed and responsibility to be aware.
(C) Right to safety and responsibility to complain.
(D) Right to redressal and responsibility to form consumer organizations.

103. Which pair correctly links a consumer term with an example?
(A) Consumer Role - To blindly trust all advertisements.
(B) Consumer Right - The right to damage public property.
(C) Consumer Problem - Getting a fair price for a quality product.
(D) Consumer Responsibility - To insist on a cash memo or bill.

104. Consider the following actions:
1. To be aware of the quality and safety of products.
2. To read labels carefully.
3. To ask for a cash memo.
4. To file a complaint in case of a grievance.
5. To engage in hoarding and black marketing.
Which of the above statement(s) is/are correct regarding consumer responsibilities?

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(D) It involves the collection, treatment, and disposal of urban waste.

53. Consider the following statements regarding the management of natural resources:
1. It is essential for ecological balance.
2. It only concerns governmental agencies.
3. It has direct implications for human well-being.
4. It is a key element of sustainable development.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2 and 4
(D) 1, 2 and 4

54. The 'concept of sustainable development' provides a framework for balancing which three pillars?
(A) Individual profit, corporate growth, and national security.
(B) Economic growth, social equity, and environmental protection.
(C) Past traditions, present needs, and future technologies.
(D) Production, consumption, and disposal.

55. Read the following statements and select the correct option.
Statement I : Water harvesting is a modern technique invented in the 21st century.
Statement II : Management of air as a resource involves controlling pollution from various sources.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is incorrect, but Statement II is correct.
(D) Statement I is correct, but Statement II is incorrect.

56. Unregulated industrial emissions and vehicular exhaust lead to the degradation in the quality of which natural resource?
(A) Air
(B) Water
(C) Land
(D) Forest

57. The management of forests aims primarily to:
(A) Maximize timber extraction without any other consideration.
(B) Convert all forest land into agricultural or urban areas.
(C) Balance conservation, biodiversity, and sustainable resource use.
(D) Prevent any human activity within forest areas.

58. Consider the following items:
1. Landfills
2. Composting
3. Incineration
4. Recycling
5. Water harvesting

Which of the above are directly related to the concept of Municipal Solid Waste Management?
(A) 1, 2, 3, and 5
(B) 1, 2, 3, and 4
(C) 2, 3, 4, and 5
(D) 1, 3, 4, and 5

59. Protecting topsoil from being washed or blown away is a key aspect of managing which natural resource?
(A) Air
(B) Water
(C) Forest
(D) Land

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60. Which statement about the Sustainable Development Goals (SDGs) is incorrect?
(A) They are global goals to protect the planet and ensure prosperity.
(B) they are legally binding international laws with financial penalties.
(C) They include goals related to water, energy, and climate action.
(D) They represent a universal call to action by all countries.

61. What is the term for the total money received by a family from various sources during a specific period?
(A) Family savings
(B) Family investment
(C) Family income
(D) Family budget

62. Match the items in List I with those in List II.

4. Alternative redressal systems aim to provide a quicker and less expensive resolution to disputes.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 2, 3 and 4
(C) 1, 3 and 4
(D) 1, 2 and 4

114. The primary purpose of 'consumer legislation' is to:
(A) Codify the rights of consumers and provide dispute resolution mechanisms.
(B) Promote specific brands over others in the national marketplace.
(C) Set the maximum retail price for all products in the economy.
(D) Control the formation of consumer cooperatives and organizations.

115. Read the following statements and select the correct option.
Statement I : 'Standardization' is the process of implementing and developing technical standards based on the consensus of different parties.
Statement II : Quality control is a process that is only performed by the government and not by manufacturers.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

116. Which pair is incorrectly matched?
(A) Consumer Organization - Advocacy for consumer rights.
(B) Consumer Legislation - Legal protection for consumers.
(C) Alternative Redressal - Consumer courts and forums.
(D) Standard Marks - Guarantee of a product's success in the market.

117. A consumer buys a packaged food product with an 'Agmark' seal. The consumer is assured of a certain standard of what?
(A) The product's packaging design.
(B) The product's electrical safety.
(C) The product's agricultural quality and purity.
(D) The product's gold content.

118. Consider the following items:
1. Consumer organizations
2. Standardization and standard marks
3. Alternative redressal mechanisms
4. Consumer legislation
5. Manufacturer profit maximization schemes

Which of the above statement(s) is/are correct regarding the consumer protection framework?
(A) 1, 2, 3, and 5
(B) 1, 2, 3, and 4
(C) 2, 3, 4, and 5
(D) 1, 3, 4, and 5

119. What is meant by 'alternative redressal'?
(A) The act of buying a different product if the first one is faulty.
(B) A system where only the manufacturer can decide a complaint outcome.
(C) The practice of ignoring consumer complaints and grievances.
(D) Methods of resolving disputes outside of traditional civil courts.

120. A group of residents in a locality form a society to buy groceries in bulk directly from wholesalers to get better prices and quality. This is an example of a:
(A) Consumer cooperative
(B) Consumer organization focused on advocacy
(C) Government standardization agency
(D) For-profit retail chain

121. What is the 'concept of entrepreneurship'?
(A) The process of working as a mid-level employee in a large corporation.
(B) The act of inheriting a family business without implementing any changes.
(C) The process of designing, launching, and running a new small business venture.
(D) The management of a non-profit organization focused on social welfare only.

122. Which of the following is a key element in the 'process of entrepreneurship'?

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202. The willingness to take calculated risks is a key trait associated with:
(A) A consumer
(B) A researcher
(C) An entrepreneur
(D) A salaried employee

203. Read the following statements and select the correct option.
Statement I : In probability sampling, every individual has an equal chance of being selected.
Statement II : In simple random sampling, every individual has an equal chance of being selected.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is incorrect, but Statement II is correct.
(D) Statement I is correct, but Statement II is incorrect.

204. The management function that deals with structuring roles and responsibilities to carry out plans is:
(A) Organizing
(B) Planning
(C) Controlling
(D) Evaluation

205. A person choosing to walk up a flight of stairs instead of taking an elevator to conserve electricity is an example of personal management of:
(A) Time
(B) Energy
(C) Money
(D) Space

206. Which of the following is an incorrect statement about the Sustainable Development Goals (SDGs)?
(A) They are a collection of 17 global goals.
(B) They apply only to developing countries.
(C) They were designed to be a "blueprint to achieve a better and more sustainable future for all."
(D) They include targets for poverty, health, education, and the environment.

207. The primary difference between 'savings' and 'investment' is that:
(A) Savings involves setting aside money, while investment involves using money to potentially earn more.
(B) Savings are for short-term goals, while investments are for long-term goals.
(C) Savings are risky, while investments are completely safe.
(D) There is no difference; the terms are interchangeable.

208. The specific methods used to deliver training, such as lectures, case studies, or on-the-job guidance, are called:
(A) Training need assessments
(B) Training evaluations
(C) Training methodologies
(D) Manpower plans

209. Laws such as the Consumer Protection Act provide a framework for:
(A) Standardization
(B) Quality control
(C) Buying aids
(D) Consumer legislation

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210. Which pair is correctly matched?
(A) Enterprise Setting - Running the day-to-day business.
(B) Entrepreneurial Barrier - High motivation.
(C) Project Appraisal - Assessing the viability of a business idea.
(D) Enterprise Management - The initial idea for a business.

211. Read the following statements and select the correct option.
Statement I : Convenience sampling is a type of probability sampling.
Statement II : The findings from a study using convenience sampling can be reliably generalized to the entire population.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

(B) Barriers to entrepreneurship
(C) Consumer responsibilities
(D) Manpower planning skills

131. Arrange the stages of the entrepreneurial process in a logical sequence:
1. Developing a business plan.
2. Identifying an opportunity.
3. Managing and growing the enterprise.
4. Launching the enterprise.

Which of the following represents the correct sequence?
(A) 2, 1, 4, 3
(B) 1, 2, 3, 4
(C) 2, 3, 1, 4
(D) 4, 3, 2, 1

132. The ongoing steering and operational control of a business after its launch is referred to as:
(A) Project planning
(B) Enterprise setting
(C) Project appraisal
(D) Enterprise management

133. Which pair correctly matches a concept with an example?
(A) Entrepreneurial Barrier - A government grant for startups.
(B) Entrepreneurial Motivation - Fear of losing a stable job.
(C) Project Appraisal - Preparing a detailed financial forecast for a new venture.
(D) Enterprise Management - The initial idea for a business.

134. Consider the following areas for assessment in a new enterprise:
1. Market feasibility
2. Technical feasibility
3. Financial feasibility
4. Managerial competence
5. The color of the company logo

Which of the above statement(s) is/are correct regarding 'project planning and appraisal'?
(A) 1, 2, 3, and 5
(B) 2, 3, 4, and 5
(C) 1, 2, 3, and 4
(D) 1, 3, 4, and 5

135. An entrepreneur faces numerous regulatory hurdles and lacks access to start-up capital. These factors act as what to the entrepreneurial process?
(A) Motivators
(B) Standard marks
(C) Buying aids
(D) Barriers

136. What is a 'sampling technique' in research methods?
(A) Selecting a subset from a larger population to make inferences about the whole.
(B) The process of collecting data from every single member of the population.
(C) The process of analyzing data using statistical software.
(D) The process of writing the final research report.

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137. The two major types of sampling are:
(A) Long-term and short-term sampling.
(B) Easy and difficult sampling.
(C) Probability and non-probability sampling.
(D) Primary and secondary sampling.

138. Match the items in List I with those in List II.
List I: (Sampling Type)
P. Probability Sampling
Q. Non-probability Sampling
R. Simple Random Sampling
S. Convenience Sampling
List II: (Core Principle)
1. Selection is based on the researcher's judgment or ease of access, not random chance.
2. Every member of the population has a known, non-zero chance of being selected.
3. Selecting a sample from a population that is close at hand or easily accessible.
4. Every member of the population has an equal chance of being selected.

Codes:
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-2, Q-3, R-4, S-1
(D) P-4, Q-1, R-2, S-3

139. Which statement accurately describes 'probability sampling'?
(A) The researcher's bias plays a major role in the selection of the sample.
(B) It is always less time-consuming and

any real purpose.
(C) Choose the most expensive training program available.
(D) Determine if a performance problem can be solved by training.

159. Which statement about entrepreneurship is incorrect?
(A) Entrepreneurship is a guaranteed path to success with no chance of failure.
(B) It involves risk-taking and innovation.
(C) Entrepreneurial motivation can be driven by a need for independence.
(D) A key part of the process is identifying a market opportunity.

160. A researcher needs to study a hidden or hard-to-reach population (e.g., homeless individuals). A suitable non-probability sampling technique would be:
(A) Simple Random Sampling
(B) Snowball Sampling
(C) Stratified Sampling
(D) Systematic Sampling

161. The mental and physical effort expended to accomplish a task is the definition of which resource?
(A) Money
(B) Energy
(C) Time
(D) Space

162. Setting standards, measuring actual performance, and taking corrective action are all steps in which management function?
(A) Controlling
(B) Planning
(C) Organizing
(D) Leading

163. Consider the following aspects of fatigue management:
1. Ignoring early signs of tiredness.
2. Ensuring adequate rest and sleep.
3. Applying work simplification techniques.
4. Taking regular breaks during long tasks.
5. Maintaining a balanced diet and hydration.

Which of the above statement(s) is/are correct?
(A) 1, 2, 3, and 4
(B) 2, 3, 4, and 5
(C) 1, 3, 4, and 5
(D) 1, 2, 4, and 5

164. The global agenda that includes goals like 'Clean Water and Sanitation' and 'Climate Action' is known as:
(A) The Municipal Solid Waste Management Act
(B) The Consumer Protection Act
(C) The Human Resource Development Plan
(D) The Sustainable Development Goals (SDGs)

165. Read the following statements and select the correct option.
Statement I : A family budget is a rigid document that cannot be changed once created for the year.
Statement II : Budgeting helps a family to live within its income and achieve its financial goals.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is incorrect, but Statement II is correct.
(D) Statement I is correct, but Statement II is incorrect.

166. In HRM, what is the purpose of 'training evaluation'?
(A) To select candidates for a job.
(B) To assess the effectiveness of a training program.
(C) To determine who needs training in the first place.
(D) To forecast future manpower needs.

167. A consumer's 'Right to be Heard' implies that:
(A) The consumer can demand any price they want.
(B) The consumer must shout to have their complaint registered.
(C) The manufacturer must listen to every consumer's design ideas.
(D) Consumer interests will receive consideration in appropriate forums.

168. The process of assessing the viability of a proposed business idea in terms of its market, financial, and technical aspects is known as:
(A) Enterprise management

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2. Convenience Sampling
3. Stratified Sampling
4. Cluster Sampling
5. Snowball Sampling

Which of the above statement(s) is/are correct regarding types of probability sampling?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 5
(D) 1, 4, and 5

149. The 'sampling procedure' refers to:
(A) The theoretical framework of the research.
(B) The method used for data analysis.
(C) The step-by-step rules and process for selecting the sample.
(D) The list of all members of the population.

150. A researcher wants to ensure that the findings from a sample can be statistically generalized to the entire population. The researcher should ideally use which type of sampling?
(A) Non-probability sampling
(B) Probability sampling
(C) Convenience sampling
(D) Judgmental sampling

151. In time management, techniques designed to perform work with the least expenditure of time and energy are known as:
(A) Motivational theories
(B) Family life cycle stages
(C) Sampling procedures
(D) Work simplification techniques

152. Which statement about 'decision making' in management is correct?
(A) It involves choosing one option from a set of alternatives.
(B) It is a random process with no logical steps.
(C) It is only required at the top level of management.
(D) Good decisions are always made instantly without any information.

153. Consider the following factors:
1. Family goals and values.
2. The stage of the family life cycle.
3. The number, age, and sex of family members.
4. The current political party in power.

Which of the above statement(s) is/are correct regarding factors that affect the use of a family's resources?
(A) 1 and 2
(B) 1, 2 and 3
(C) 3 and 4
(D) 1, 2, 3 and 4

154. A manager creating a departmental structure, assigning roles, and defining reporting lines is performing the _____ function.
(A) Organizing
(B) Planning
(C) Controlling
(D) Evaluating

155. The satisfaction and enjoyment a family derives from using its income and resources is referred to as:
(A) Money Income
(B) Real Income
(C) Supplemented Income
(D) Psychic Income

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156. The management of natural resources includes strategies for all of the following EXCEPT:
(A) Water harvesting
(B) Increasing air pollution
(C) Municipal solid waste management
(D) Forest conservation

157. Read the following statements and select the correct option.
Statement I : Consumer cooperatives are for-profit businesses owned by external investors.
Statement II : Consumer organizations work to educate and protect consumers.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is incorrect, but Statement II is correct.
(D) Statement I is correct, but Statement II is incorrect.

158. The most fundamental reason for conducting a 'training need assessment' is to:
(A) Ensure that training is provided only to senior employees.
(B) Fulfill a regulatory requirement without

(A) Identifying a business opportunity.
(B) Avoiding all risks.
(C) Maintaining the status quo.
(D) Working fixed hours from 9 to 5.

123. Match the items in List I with those in List II.
List I: (Term)
P. Entrepreneurial Motivation
Q. Barriers to Entrepreneurship
R. Project Appraisal
S. Enterprise Management
List II: (Description)
1. Obstacles such as lack of capital or fear of failure.
2. The day-to-day running and steering of the business.
3. The internal drive and factors that inspire a person to become an entrepreneur.
4. The process of assessing the viability of a proposed business idea.
Codes:
(A) P-1, Q-3, R-2, S-4
(B) P-3, Q-1, R-4, S-2
(C) P-3, Q-2, R-4, S-1
(D) P-2, Q-4, R-1, S-3

124. Which of the following is an incorrect statement about 'barriers' to entrepreneurship?
(A) Lack of access to finance can be a significant barrier.
(B) Strong government support and easy regulations are major barriers.
(C) Fear of failure often discourages potential entrepreneurs.
(D) Lack of entrepreneurial skills and knowledge can be a barrier.

125. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A) : Project planning and appraisal are critical before launching a new enterprise.
Reason (R) : These processes help in determining the financial, technical, and market feasibility of the business idea, reducing the chances of failure.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

126. What is the most accurate description of 'entrepreneurial motivation'?
(A) The desire for a stable, risk-free job.
(B) The pressure from family to join an existing business.
(C) The motivation to work for someone else.
(D) Internal factors like independence and achievement driving business start-ups.

127. Read the following statements and select the correct option.
Statement I : 'Enterprise setting' refers to the process of establishing the legal, financial, and operational structure of a new business.
Statement II : 'Enterprise management' is a one-time activity that ends once the business is launched.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

128. Consider the following as potential 'challenges' for an entrepreneur:
1. Securing funding
2. Building a customer base
3. Managing cash flow
4. Having too much market demand
Which of the above statement(s) is/are correct?
(A) 1 and 2
(B) 1, 2 and 3
(C) 3 and 4
(D) 1, 2, 3 and 4

129. The detailed evaluation of a project to determine its viability is called:
(A) Enterprise management
(B) Project appraisal
(C) Entrepreneurial motivation
(D) Entrepreneurial process

130. An individual with a high need for achievement, a willingness to take calculated risks, and a desire for independence is likely to have strong:
(A) Entrepreneurial motivation

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(B) Entrepreneurial motivation
(C) Human resource development
(D) Project planning and appraisal

169. A researcher divides the population into men and women, and then selects 50 men and 50 women randomly. This is an application related to which sampling type?
(A) Convenience Sampling
(B) Stratified Sampling
(C) Simple Random Sampling
(D) Snowball Sampling

170. The stages a family typically goes through, from formation to dissolution, are collectively known as the:
(A) Management process
(B) Entrepreneurial process
(C) Family life cycle
(D) Budgeting cycle

171. Which statement about resources is incorrect?
(A) Resources can be human or non-human.
(B) The usefulness of a resource is one of its key characteristics.
(C) Management is necessary because resources are limited.
(D) All resources are unlimited in supply.

172. The '3Rs' often associated with municipal solid waste management stand for:
(A) Reduce, Reuse, Recycle
(B) Read, Remember, Recite
(C) Repair, Re-sell, Return
(D) Red, Round, Raw

173. Read the following statements and select the correct option.
Statement I : Tax implications are an important consideration in family savings and investment decisions.
Statement II : All types of investment returns are tax-free.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

174. An organization, facing a high employee turnover rate, decides to analyze its work environment, compensation, and growth opportunities. This falls under the broad domain of:
(A) Financial management
(B) Human resource management
(C) Consumer protection
(D) Natural resource management

175. A consumer who buys an electrical appliance with an ISI mark on it is primarily assured of the product's:
(A) Quality and safety standards
(B) Low price
(C) Foreign origin
(D) Attractive packaging

176. Which pair correctly links an entrepreneurship term and its meaning?
(A) Barrier - Strong market demand.
(B) Motivation - Fear of risk.
(C) Challenge - Managing cash flow.
(D) Process - Avoiding planning.

177. Probability sampling techniques include all of the following EXCEPT:
(A) Simple Random Sampling
(B) Stratified Sampling
(C) Cluster Sampling
(D) Quota Sampling

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178. The factors that energize, direct, and sustain goal-oriented behavior are known as:
(A) Controlling factors
(B) Fatigue factors
(C) Motivating factors
(D) Budgeting factors

179. Which management function involves determining in advance what should be done?
(A) Organizing
(B) Planning
(C) Controlling
(D) Evaluating

180. A person using a to-do list and a calendar to meet deadlines is practicing effective:
(A) Money management
(B) Space management
(C) Fatigue management
(D) Time management

cheaper than non-probability sampling.
(C) It does not require a sampling frame.
(D) results can be generalized to the population with statistical confidence.

140. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A) : Non-probability sampling methods are often used in exploratory research.
Reason (R) : In non-probability sampling, not every member of the population has a chance of being selected, which makes it difficult to generalize the findings to the entire population.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

141. In which type of sampling does every element in the population have an equal and independent chance of being selected?
(A) Quota Sampling
(B) Purposive Sampling
(C) Simple Random Sampling
(D) Convenience Sampling

142. A researcher stands outside a mall and interviews the first 100 people who agree to speak with them. This is a classic example of which sampling procedure?
(A) Stratified Random Sampling
(B) Simple Random Sampling
(C) Systematic Sampling
(D) Convenience Sampling

143. Consider the following sampling techniques:
1. Simple Random Sampling
2. Quota Sampling
3. Convenience Sampling
4. Purposive (Judgmental) Sampling
Which of the above statement(s) is/are correct regarding non-probability sampling techniques?
(A) 1, 2 and 3
(B) 2, 3 and 4
(C) 1 and 4
(D) 1, 2, 3 and 4

144. The main advantage of probability sampling over non-probability sampling is:
(A) It is much easier and quicker to implement.
(B) It allows for the estimation of sampling error and enhances generalizability.
(C) It does not require a list of the population elements.
(D) It relies entirely on the researcher's expert judgment.

145. Read the following statements and select the correct option.
Statement I : The choice of sampling technique depends on the research objectives, time, cost, and the nature of the population.
Statement II : Probability sampling is always the best and most practical choice for every research study.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

146. Which statement about sampling is incorrect?
(A) A larger sample size always guarantees a more representative sample, regardless of the sampling method.
(B) Sampling is used when studying the entire population is impractical.
(C) A sample should be representative of the population from which it is drawn.
(D) The sampling procedure outlines the step-by-step process of selecting a sample.

147. Which pair correctly matches a sampling technique with its characteristic?
(A) Probability Sampling - Subjective selection of units.
(B) Non-probability Sampling - Every unit has a known chance of selection.
(C) Stratified Sampling - Dividing population into subgroups and sampling from each.
(D) Convenience Sampling - Highly representative and free from bias.

148. Consider the following sampling techniques:
1. Simple Random Sampling

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(A) To track and understand current income and spending patterns.
(B) To decide on investments.
(C) To apply for a loan.
(D) To stop all spending immediately.

192. In HRM, the process of identifying the gap between the number of employees an organization has and the number it will need in the future is called:
(A) Training evaluation
(B) Performance appraisal
(C) Manpower planning
(D) Employee orientation

193. A consumer has all the following rights EXCEPT the right to:
(A) Be informed
(B) Choose
(C) Seek redressal
(D) Exploit the seller

194. Read the following statements and select the correct option.
Statement I : 'Project Appraisal' is the process of managing the day-to-day operations of an established enterprise.
Statement II : 'Enterprise Management' involves the ongoing activities of planning, organizing, directing, and controlling a business.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is incorrect, but Statement II is correct.
(D) Statement I is correct, but Statement II is incorrect.

195. Which pair correctly links the sampling type with its nature?
(A) Probability sampling - Generalization is statistically difficult.
(B) Probability sampling - Selection is based on random chance.
(C) Non-probability sampling - Allows for estimation of sampling error.
(D) Non-probability sampling - Requires a complete list of the population.

196. A manager reviewing weekly performance reports to ensure the team is meeting its targets is engaging in the function of:
(A) Planning
(B) Organizing
(C) Motivating
(D) Controlling

197. A key characteristic of resources is that they are generally:
(A) Limited or scarce
(B) Unlimited and free
(C) Unmanageable
(D) Only monetary in nature

198. The process of collecting and storing rainwater for later use, rather than allowing it to run off, is known as:
(A) Water purification
(B) Waste water treatment
(C) Water harvesting
(D) Drip irrigation

199. Earning from a freelance gig or a home-based catering business in addition to a regular salary is an example of:
(A) Income supplementation
(B) Psychic income
(C) Real income
(D) A tax liability only

200. Which statement accurately describes a challenge for Human Resource Development (HRD)?
(A) HRD is not affected by globalization or technological change.
(B) HRD's only function is to handle employee dismissals.
(C) There are no challenges associated with managing a diverse workforce.
(D) A key challenge is aligning development with organization goals.

201. A consumer keeps all bills, receipts, and warranty cards after a purchase. This action fulfills a consumer _____ and aids in seeking _____.
(A) right; empowerment
(B) responsibility; redressal
(C) problem; standardization
(D) behavior; education

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181. What is the core principle of 'sustainable development'?
(A) Meeting present needs without compromising the ability of future generations to meet theirs.
(B) Maximizing resource use for present gain only.
(C) Halting all economic development to conserve resources.
(D) Prioritizing economic growth over environmental and social concerns.

182. The flow of goods and services used by the family, such as a company car or a kitchen garden's produce, constitutes its:
(A) Money Income
(B) Psychic Income
(C) Real Income
(D) Taxable Income

183. One of the biggest challenges in Human Resource Development (HRD) in a rapidly changing world is:
(A) Keeping employees' skills and knowledge up-to-date.
(B) Reducing the number of employees.
(C) Minimizing communication with employees.
(D) Avoiding any investment in employee training.

184. Read the following statements and select the correct option.
Statement I : The 'Right to Safety' protects consumers against goods and services which are hazardous to life and property.
Statement II : A consumer has the responsibility to use products safely as per the manufacturer's instructions.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

185. An individual has a novel idea for a mobile application and decides to develop it, secure funding, and launch it as a business. This individual is acting as a(n):
(A) Consumer
(B) Entrepreneur
(C) Human resource manager
(D) Researcher

186. In research, a sampling procedure where the selection of sample units is left to the discretion of the interviewer is known as:
(A) Probability sampling
(B) Random sampling
(C) Non-probability sampling
(D) Systematic sampling

187. Which statement regarding management is incorrect?
(A) It is a goal-oriented process.
(B) It is a universal activity applicable to all types of organizations.
(C) It involves working with and through people to achieve goals.
(D) It is a single, one-time event, not a continuous process.

188. During which stage of the family life cycle is the demand on resources like time and money for children's needs typically at its peak?
(A) Expanding stage (with children)
(B) Beginning stage (newly married, no children)
(C) Contracting stage (children have left home)
(D) Retirement stage

189. Mundel's 'classes of change' are a systematic approach related to which concept?
(A) Money management
(B) Work simplification
(C) Consumer empowerment
(D) Sustainable development

190. The management of land resources involves:
(A) Promoting soil erosion.
(B) Using land judiciously for agriculture, industry, and conservation.
(C) Converting all land into urban settlements.
(D) Ignoring the impact of land use on the environment.

191. The most important first step in creating a family budget is:

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212. A factory manager adjusts the production line to reduce wasted movements for workers. This is an application of:
(A) Financial planning
(B) Consumer education
(C) Water harvesting
(D) Work simplification

213. The direct overseeing of subordinates at work is the management function of:
(A) Supervision
(B) Planning
(C) Evaluation
(D) Organizing

214. A family's children grow up and leave home for college or jobs. The family enters the _____ stage of the family life cycle, leading to changes in resource needs.
(A) beginning
(B) expanding
(C) contracting
(D) formation

215. Factors affecting the use of resources include all of the following EXCEPT:
(A) The definition of sampling
(B) Personal or family goals
(C) Cultural norms
(D) Availability of the resource

216. The primary goal of managing forest resources sustainably is to:
(A) Prevent all human access to forests.
(B) Convert all forests to agricultural land.
(C) Maximize short-term economic gain from logging.
(D) Balance needs for timber, recreation, and preservation.

217. Which of the following statements about family budgeting is incorrect?
(A) A budget helps track where money goes.
(B) Budgeting is only for people with low incomes.
(C) A budget should be flexible to accommodate unexpected expenses.
(D) Budgeting is a key tool for achieving financial goals.

218. Before launching a new leadership program, an HR manager surveys employees and managers to identify specific leadership skill gaps. This survey is a form of:
(A) Training evaluation
(B) Training methodology
(C) Training need assessment
(D) Manpower planning

219. The 'FPO' mark found on processed fruit products like juices and jams in India is a:
(A) Consumer organization
(B) Buying aid
(C) Consumer redressal agency
(D) Standard mark

220. Read the following statements and select the correct option.
Statement I : Fear of failure and lack of capital are major barriers to entrepreneurship.
Statement II : High entrepreneurial motivation can help individuals overcome some of these barriers.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

221. A sampling method where a researcher selects participants based on their specific knowledge or expertise relevant to the study is known as:
(A) Convenience sampling
(B) Purposive sampling
(C) Simple random sampling
(D) Cluster sampling

222. The most fundamental aspect of 'management' as a concept is:
(A) The accumulation of wealth.
(B) The use of resources to achieve specific goals.
(C) The avoidance of all decision-making.
(D) The strict adherence to tradition without change.

223. The controlling function of management is closely linked to which other function?

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(A) Planning, as control measures performance against plans.
(B) Motivation, as control is about inspiring workers.
(C) Entrepreneurship, as control is about starting new businesses.
(D) Budgeting, as control has no financial aspect.

224. To combat physiological fatigue, a worker should prioritize:
(A) Learning a new skill
(B) Working longer hours
(C) Adequate rest and nutrition
(D) Taking on more complex tasks

225. Unplanned and rapid urbanization without proper waste disposal infrastructure leads to a crisis in:
(A) Water harvesting
(B) Forest management
(C) Air quality, but not waste
(D) Municipal solid waste management

226. The part of family income that is not consumed but set aside for future use is called:
(A) Budget
(B) Investment
(C) Savings
(D) Psychic income

227. Which statement regarding HRM functions is incorrect?
(A) Manpower planning helps in determining future staffing needs.
(B) Training evaluation is the first step in the training process.
(C) Training is aimed at improving employee skills.
(D) Training need assessment identifies who needs training.

228. The ability of consumers to make independent, informed decisions and to have their interests protected is known as:
(A) Consumer behavior
(B) Consumer problem
(C) Consumer definition
(D) Consumer empowerment

229. The existence of consumer courts and forums is a direct manifestation of which consumer right?
(A) The Right to Redressal
(B) The Right to Choose
(C) The Right to Safety
(D) The Right to be Informed

230. Read the following statements and select the correct option.
Statement I : The entrepreneurial process starts with managing an already existing, large enterprise.
Statement II : The entrepreneurial process often begins with the identification of a business opportunity.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is incorrect, but Statement II is correct.
(D) Statement I is correct, but Statement II is incorrect.

231. If a population is diverse with distinct subgroups (e.g., different income levels), which probability sampling method would be most effective to ensure representation from each subgroup?
(A) Stratified Sampling
(B) Convenience Sampling
(C) Simple Random Sampling
(D) Quota Sampling

232. The management of personal resources like time and energy is crucial for:
(A) Only corporate success
(B) Only national policy
(C) Only managing natural resources
(D) Both personal well-being and professional effectiveness

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233. Which pair correctly links a management function to its description?
(A) Planning - Looking backward at past mistakes.
(B) Organizing - Creating a structure of roles and tasks.
(C) Controlling - Motivating employees with bonuses.
(D) Evaluation - Setting future goals.

234. A resource's ability to be used in place of another, like using a credit card instead of cash, demonstrates the characteristic of:
(A) Utility
(B) Accessibility
(C) Interchangeability
(D) Manageability

235. Effective management of land, water, forest, and air is essential for:
(A) Achieving short-term profits only.
(B) Increasing pollution levels.
(C) Depleting all resources quickly.
(D) Ensuring long-term environmental sustainability.

236. A family consistently spends more than it earns, leading to debt and financial instability. This could be prevented by effective:
(A) Budgeting
(B) Income supplementation
(C) Investment
(D) Tax planning

237. Human Resource Management encompasses all of the following EXCEPT:
(A) Manpower planning
(B) Product pricing and marketing strategy
(C) Training and development of employees
(D) Needs assessment and evaluation of training

238. The most fundamental problem a consumer faces is:
(A) Having too many choices.
(B) The information gap between seller knowledge and buyer knowledge.
(C) The legal requirement to pay for goods.
(D) The existence of quality standards.

239. Read the following statements and select the correct option.
Statement I : Standard marks like Hallmark on jewelry give consumers an assurance of purity.
Statement II : Buying aids, such as independent product reviews, can help consumers make better purchasing decisions.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

240. Lack of access to finance, fear of failure, and complex regulations are often cited as:
(A) Motivations for entrepreneurship
(B) The outcomes of entrepreneurship
(C) Barriers to entrepreneurship
(D) The definition of entrepreneurship

241. Which statement regarding sampling is incorrect?
(A) Probability sampling allows for statistical inference about the population.
(B) The sampling procedure is the method used to select the sample.
(C) Sampling is a key concept in research methods.
(D) Non-probability sampling involves random selection.

242. A manager deciding which of three new product lines to launch is engaging in:
(A) Supervision
(B) Controlling
(C) Decision making
(D) Evaluation of past performance

243. The final stage of the management process that checks whether the planned goals have been achieved is:
(A) Planning
(B) Evaluation
(C) Supervision
(D) Organizing

244. The primary reason for practicing work simplification is to:
(A) Make tasks more complicated and time-consuming.
(B) Increase physical and mental fatigue.
(C) Avoid completing any work at all.
(D) Conserve personal resources like time and energy.

245. Which pair is correctly matched?
(A) SDGs - A set of global goals for sustainability.
(B) Municipal Solid Waste - Managed by water harvesting.
(C) Sustainable Development - Prioritizes

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current needs over future needs.
(D) Water Harvesting - A method to pollute water sources.

246. A person invests in stocks and receives dividends. This dividend income becomes part of the person's:
(A) Family budget
(B) Family income
(C) All of the above
(D) Household accounts (as an entry)

247. A social researcher wants to conduct a survey to understand the consumer problems faced by elderly people in a city without a complete registry. Which sampling approach is most appropriate?
(A) A non-probability method like Quota or Purposive Sampling to represent subgroups.
(B) Convenience Sampling by interviewing individuals at a single local park.
(C) Simple Random Sampling, because it is the most scientific method available.
(D) Interviewing every single elderly resident residing in the entire city limits.

248. A sampling method where a researcher selects participants based on their specific knowledge or expertise relevant to the study is known as:
(A) Convenience sampling
(B) Purposive sampling
(C) Simple random sampling
(D) Cluster sampling

249. The most fundamental aspect of 'management' as a concept is:
(A) The accumulation of wealth.
(B) The use of resources to achieve specific goals.
(C) The avoidance of all decision-making.
(D) The strict adherence to tradition without change.

250. The controlling function of management is closely linked to which other function?
(A) Planning, as control measures performance against plans.
(B) Motivation, as control is about inspiring workers.
(C) Entrepreneurship, as control is about starting new businesses.
(D) Budgeting, as control has no financial aspect.

Direction : Please read the following source carefully.

Management is a multifaceted process central to achieving personal and familial goals. Its approaches vary, encompassing different perspectives on how to best utilize resources. The core of management involves the judicious handling of specific, often limited, resources like time, energy, money, and space. Effective management of these elements is not an isolated activity but is deeply intertwined with psychological drivers. Motivating factors, which can be intrinsic or extrinsic, play a crucial role in propelling individuals towards efficient resource use and goal attainment. Understanding motivation theories is therefore essential for managers and individuals alike, as these frameworks explain why people behave as they do and how their efforts can be directed towards desired outcomes. The process of decision-making is a critical cognitive function within management, representing the selection of a course of action from among various alternatives. It involves identifying problems, gathering information, and evaluating alternative solutions. A sound decision-making process underpins all managerial activities, from simple daily choices to complex strategic planning, and its quality directly impacts the effectiveness of resource allocation and the ultimate achievement of goals. Thus, management is a synthesis of procedural actions and an understanding of human motivation, all funnelled through the critical process of decision-making.

Based on the above source, attempt the following five questions.

251. According to the paragraph, what is the relationship between motivation and resource management?
(A) Motivation is a resource to be managed, similar to time and energy.
(B) Motivation is a psychological driver that influences the efficiency of resource use.
(C) Motivation theories are only applicable in organizational, not personal, management.
(D) Effective resource management automatically leads to higher motivation.

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252. The paragraph suggests that decision-making is a foundational element of management because it:
(A) is the process through which resource allocation choices are made.
(B) is the final step after all resources have been allocated.
(C) replaces the need for understanding motivation theories.
(D) exclusively involves complex strategic planning, not daily choices.

253. Which of the following statements can be inferred from the passage about the nature of management?
(A) Management is a purely procedural activity focused on resource allocation.
(B) Management is primarily concerned with the management of financial resources.
(C) Management is an integrated process combining procedural actions with psychological understanding.
(D) Management approaches are universally fixed and do not vary.

254. Based on the text, the management of time, energy, money, and space is described as:
(A) the secondary objective of management.
(B) a psychological driver for motivation.
(C) a function independent of decision-making.
(D) the core activity within the management process.

255. The passage defines decision-making as the cognitive function involving:
(A) the singular execution of a predetermined plan.
(B) the process of motivating individuals to use resources efficiently.
(C) the identification and selection of a course of action from alternatives.
(D) the final evaluation of goal achievement in management.

Direction : Please read the following source carefully.

The functions of management provide a structural framework for achieving objectives within any unit, including the family. These core functions are planning, supervision, controlling, organizing, and evaluation. Planning involves setting goals and charting a course of action to reach them, serving as the foundation for all other managerial activities. Organizing follows, entailing the systematic arrangement of resources and delegation of tasks to create a functional structure. Supervision, or directing, guides the implementation of the plan, ensuring tasks are performed correctly and efficiently. The controlling function is a crucial feedback loop; it involves monitoring progress against the established plan and making necessary adjustments to correct deviations. Finally, evaluation assesses the overall outcomes to determine the effectiveness of the entire process and provides insights to inform future planning cycles. The application of these functions is not static; it dynamically adapts across the different stages of the family life cycle. The availability and use of resources also shift dramatically through these stages. For instance, a family in the launching stage may focus its planning and resource allocation on supporting children's higher education and careers, which differs significantly from the planning priorities of a newly formed family. Effective management, therefore, requires the flexible application of these core functions in response to the evolving needs, resources, and goals characteristic of each stage of the family life cycle.

Based on the above source, attempt the following five questions.

256. Which management function is described as a "crucial feedback loop" for monitoring progress and correcting deviations?
(A) Planning
(B) Controlling
(C) Organizing
(D) Evaluation

257. According to the paragraph, how do the functions of management relate to the family life cycle?
(A) The functions of management remain static and are applied identically across all stages.
(B) Only the planning function is relevant to the family life cycle.
(C) The family life cycle determines which management functions are used, with some being omitted in certain stages.
(D) The application of management functions dynamically adapts to the needs of each

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stage.

258. What can be inferred about the relationship between evaluation and planning from the passage?
(A) Evaluation provides insights that inform and improve future planning.
(B) Evaluation is an independent function with no impact on planning.
(C) Planning must be completed before evaluation can be considered.
(D) Evaluation and planning are identical and interchangeable functions.

259. The paragraph suggests that the "organizing" function of management primarily involves:
(A) setting goals and charting a course of action.
(B) assessing the overall outcomes of the management process.
(C) arranging resources and delegating tasks systematically.
(D) monitoring progress against an established plan.

260. If a family is adjusting its budget midway through the month because of an unexpected expense, which management function are they primarily engaging in?
(A) Controlling
(B) Planning
(C) Organizing
(D) Evaluation

Direction : Please read the following source carefully.

Resources are fundamental inputs for achieving goals and can be broadly classified based on their inherent properties. A key characteristic of resources is their utility, accessibility, and interchangeability. The use of these resources is not arbitrary but is influenced by a variety of factors, including cultural norms, knowledge, and the values of the individual or family. Effective resource management often necessitates a focus on conservation to ensure long-term availability. Within the domain of personal resource management, time management is a critical skill. It involves specific strategies and tools to enhance productivity and achieve a balance between various life domains. Closely related to the management of time and energy is the concept of work simplification. Work simplification techniques aim to accomplish tasks with minimum expenditure of time and energy. These techniques are often categorized by the "classes of change," which may include changes in hand and body motions, work arrangement and equipment, or the final product itself. By implementing these changes, individuals can reduce fatigue, which is a state of reduced capacity for work resulting from prolonged exertion. The effective management of fatigue, through strategies like planned rest periods and ergonomic adjustments, is essential for sustaining performance and well-being, thereby creating a synergistic relationship between resource conservation, work simplification, and personal effectiveness.

Based on the above source, attempt the following five questions.

261. According to the passage, work simplification techniques are primarily designed to:
(A) increase the complexity of tasks to improve skill.
(B) eliminate the need for resource conservation.
(C) focus solely on changes to the final product.
(D) accomplish tasks with minimal use of time and energy.

262. The paragraph suggests that "classes of change" are relevant to which of the following concepts?
(A) Resource classification
(B) Work simplification
(C) Fatigue management
(D) Resource conservation

263. What can be inferred about the factors affecting resource use from the passage?
(A) Resource use is determined solely by the accessibility of the resource.
(B) Resource use is objective and not influenced by personal or cultural factors.
(C) Resource use is shaped by a combination of personal values, culture, and knowledge.
(D) Resource use is primarily dependent on the interchangeability of resources.

264. The passage connects fatigue management with work simplification by implying that:
(A) work simplification is a direct cause of fatigue.
(B) managing fatigue eliminates the need for

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work simplification.
(C) fatigue and work simplification are unrelated concepts.
(D) effective work simplification can help reduce fatigue.

265. Based on the source, which of the following is NOT listed as a characteristic of resources?
(A) Inexhaustibility
(B) Utility
(C) Accessibility
(D) Interchangeability

Direction : Please read the following source carefully.

The management of natural resources is a critical area of study focused on ensuring the responsible stewardship of assets like land, forest, water, and air. These resources are finite and vulnerable to degradation, necessitating sustainable practices for their long-term viability. One significant practice in water management is water harvesting, which involves the collection and storage of rainwater for reuse, rather than allowing it to run off. This technique is vital for conserving water, especially in arid and semi-arid regions. Another pressing issue in resource management is municipal solid waste management, which addresses the collection, treatment, and disposal of solid materials discarded by a populace. Effective waste management is crucial for public health and environmental protection. Both water harvesting and waste management are integral components of a broader philosophy known as sustainable development. The concept of sustainable development advocates for meeting the needs of the present without compromising the ability of future generations to meet their own needs. This concept has been operationalized through the Sustainable Development Goals (SDGs), a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity. Managing natural resources effectively is therefore not just an environmental issue but a developmental imperative, deeply linked to the principles of inter-generational equity and global sustainability as outlined in the SDGs.

Based on the above source, attempt the following five questions.

266. The paragraph defines the concept of sustainable development as:
(A) maximizing resource exploitation for current economic growth.
(B) meeting present needs without compromising the needs of the future.
(C) focusing exclusively on municipal solid waste management.
(D) prioritizing water harvesting over all other conservation efforts.

267. According to the text, water harvesting is a technique primarily aimed at:
(A) purifying municipal solid waste.
(B) collecting and storing rainwater for conservation and reuse.
(C) generating hydroelectric power.
(D) managing the sustainable use of forest land.

268. What is the relationship between sustainable development and the Sustainable Development Goals (SDGs) as described in the passage?
(A) The SDGs are a framework designed to operationalize the concept of sustainable development.
(B) The SDGs are a critique of the concept of sustainable development.
(C) Sustainable development is one of the many goals listed within the SDGs.
(D) The SDGs and sustainable development are competing and unrelated concepts.

269. The management of which of the following is presented as crucial for public health and environmental protection?
(A) Water harvesting systems
(B) Sustainable forest land
(C) Municipal solid waste
(D) Atmospheric air quality

270. Based on the passage, it can be inferred that the management of natural resources is considered a "developmental imperative" because:
(A) it is solely an environmental concern with no social or economic dimensions.
(B) it guarantees immediate economic prosperity for the current generation.
(C) it is a practice mandated only for developed nations.
(D) it is linked to principles of equity between generations and global well-being.

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Direction : Please read the following source carefully.

Money management is a critical component of family resource management, focusing on the effective and efficient use of financial resources to achieve economic security and goals. A central element is the family income, which can be of different types, such as money income, real income, and psychic income. To enhance financial stability, families may engage in income supplementation through various means. The cornerstone of sound money management is the creation and adherence to a budget. Budgeting is a forward-looking plan for allocating future income to various categories of expenditure, savings, and debt repayment. It serves as a tool for control and discipline in spending. To support the budgeting process, maintaining household accounts is essential. These accounts provide a detailed record of actual income and expenditure, allowing families to track their financial flows, compare them against the budget, and make informed adjustments. Beyond managing day-to-day expenses, effective money management involves planning for the future through family savings and investment. Savings refer to the portion of income not spent, set aside for future needs, while investment is the act of committing money to an asset with the expectation of generating future income or appreciation. When making these financial decisions, considering the tax implications is crucial, as taxes can significantly impact the net returns on investments and the overall disposable income of the family.

Based on the above source, attempt the following five questions.

271. What is the primary purpose of maintaining household accounts as described in the paragraph?
(A) To supplement the family income through bookkeeping services.
(B) To create a forward-looking plan for future income allocation.
(C) To record actual income and expenditure for tracking and comparison.
(D) To calculate the tax implications of various investment options.

272. The passage distinguishes between savings and investment by defining investment as:
(A) the portion of income that is not spent on consumption.
(B) the act of committing money to an asset to generate future returns.
(C) a forward-looking plan for allocating future income.
(D) the process of recording all household expenditures.

273. According to the source, what is the relationship between budgeting and household accounts?
(A) They are identical processes with different names.
(B) Budgeting is the process of recording past expenses, while household accounts plan for the future.
(C) A family only needs to perform either budgeting or keep household accounts, but not both.
(D) Household accounts provide the data to monitor and adjust the plan created by the budget.

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274. The text suggests that budgeting is considered the "cornerstone" of money management because it:
(A) provides a disciplined plan for allocating income.
(B) involves supplementing family income.
(C) accounts for real income and psychic income.
(D) is primarily concerned with tax implications.

275. When making decisions about family savings and investment, the passage emphasizes the importance of considering:
(A) only the potential for psychic income.
(B) the historical records in household accounts.
(C) the potential tax implications.
(D) the various methods of income supplementation.

Direction : Please read the following source carefully.

Human resource management (HRM) is a strategic approach to the effective management of an organization's workforce, ensuring they contribute to the achievement of organizational objectives. The primary functions of HRM encompass a wide range of activities designed to attract, develop, and retain a competent and committed

workforce. The need for systematic HRM arises from the recognition that human resources are a significant asset. Core to HRM is human resource development (HRD), which focuses on the growth and development of employees. However, implementing HRD presents several challenges, such as adapting to technological changes and managing a diverse workforce. A key function within HRM is manpower planning, also known as human resource planning. This is the process of forecasting an organization's future human resource needs and determining how the existing workforce can be utilized to fulfill these needs. Once needs are identified, a training need assessment is conducted to pinpoint specific skill and knowledge gaps. Based on this assessment, appropriate training methodologies are selected, which can range from on-the-job training to workshops and e-learning. The final step in the cycle is training evaluation, which measures the effectiveness of the training programs in terms of employee performance and organizational impact. This systematic process ensures that human resource development is not ad-hoc but is strategically aligned with organizational goals.
Based on the above source, attempt the following five questions.

276. According to the paragraph, what is the purpose of a training need assessment?
(A) To identify specific skill and knowledge gaps among employees.
(B) To evaluate the overall effectiveness of a completed training program.
(C) To forecast the organization's future human resource requirements.
(D) To select a specific training methodology like e-learning.

277. The passage describes manpower planning as the process of:
(A) evaluating the impact of training on employee performance.
(B) developing the skills and knowledge of the existing workforce.
(C) managing the challenges associated with a diverse workforce.
(D) forecasting future personnel needs and planning for their fulfillment.

278. What is the logical sequence of the training process as outlined in the source?
(A) Training evaluation → Training methodologies → Training need assessment
(B) Training need assessment → Training methodologies → Training evaluation
(C) Training methodologies → Training need assessment → Training evaluation
(D) Training need assessment → Training evaluation → Training methodologies

279. The paragraph suggests that the fundamental need for human resource management stems from the:
(A) need to reduce the number of employees in an organization.
(B) challenges posed by advancements in technology.
(C) recognition of the workforce as a significant organizational asset.
(D) requirement to conduct manpower planning annually.

280. Based on the text, human resource development (HRD) is best understood as a component of HRM that focuses on:
(A) the initial recruitment and selection of employees.
(B) the forecasting of future workforce numbers.
(C) the evaluation of training program effectiveness.
(D) the growth and development of the existing workforce.

Direction : Please read the following source carefully.

In the context of resource management, the consumer is a central figure, defined as an individual who purchases and uses goods and services to satisfy their needs and wants. The role of the consumer extends beyond mere consumption; it involves making informed choices in the marketplace. To facilitate this role, consumers are endowed with certain rights and responsibilities. Consumer rights, such as the right to safety, information, choice, and redressal, provide a protective framework. Correspondingly, consumer responsibilities include the duty to be aware, to think critically, and to act ethically. The study of consumer behavior seeks to understand the decision-making processes,

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both individual and group, that precede and determine purchasing acts. However, consumers often face a multitude of problems, including misinformation, substandard products, and unfair trade practices. These challenges highlight the critical need for consumer education, which aims to impart the knowledge and skills necessary for making rational and informed decisions. The ultimate goal is consumer empowerment, a state in which consumers have the power and confidence to navigate the marketplace effectively, assert their rights, and make choices that enhance their well-being. Empowerment is thus the culmination of being educated about one's rights and responsibilities and being capable of acting upon that knowledge to overcome consumer problems.

Based on the above source, attempt the following five questions.

281. The ultimate goal of consumer education, as stated in the passage, is:
(A) to achieve consumer empowerment.
(B) to eliminate all consumer problems completely.
(C) to study the decision-making processes of consumers.
(D) to define the role of the consumer in the marketplace.

282. The paragraph suggests a reciprocal relationship between consumer rights and responsibilities. Which of the following best represents a consumer responsibility?
(A) The right to be protected against unsafe products.
(B) The duty to be aware and think critically before purchasing.
(C) The right to choose from a variety of goods and services.
(D) The right to seek redressal for grievances.

283. According to the text, the study of consumer behavior focuses on:
(A) the legal framework of consumer rights.
(B) the decision-making processes related to purchasing acts.
(C) the various problems faced by consumers in the marketplace.
(D) the methods of empowering and educating consumers.

284. What can be inferred about the state of consumer empowerment from the passage?
(A) It results from being educated and capable of asserting one's rights.
(B) It is an automatic status granted to all consumers.
(C) It is solely dependent on the government providing consumer protection.
(D) It is achieved by ignoring consumer responsibilities.

285. The passage defines a consumer primarily as an individual who:
(A) produces goods and services for the market.
(B) organizes consumer protection movements.
(C) purchases and uses goods and services to satisfy needs.
(D) sets the standards and quality control for products.

Direction : Please read the following source carefully.

Consumer protection encompasses a range of measures designed to safeguard the interests and rights of consumers in the marketplace. A significant pillar of this protective framework is the role of consumer organizations and cooperatives, which act as collective voices, advocating for consumer rights and providing assistance. When disputes arise, the formal legal system is not the only recourse; alternative redressal mechanisms exist to provide more accessible and speedier resolution of grievances. Central to ensuring product quality and safety is the process of standardization. Standardization involves setting uniform specifications and quality metrics for products and services. The implementation of these standards is often signified by standard marks, which are official labels or symbols (e.g., ISI, Agmark) affixed to products to certify that they conform to the prescribed standards. This system of quality control helps consumers make informed purchasing decisions. Furthermore, various buying aids, such as informative labels, product reviews, and comparative testing reports, assist consumers in evaluating products before purchase. The entire edifice of consumer protection is supported by a robust body of consumer legislation. These laws define unfair trade practices, outline consumer rights, and establish the legal and administrative machinery,

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including consumer courts, for redressal and enforcement, thereby creating a comprehensive system to protect consumers from exploitation.
Based on the above source, attempt the following five questions.

286. According to the paragraph, what is the primary function of a "standard mark"?
(A) To provide an alternative redressal for consumer disputes.
(B) To serve as a buying aid like a product review.
(C) To organize consumers into a cooperative society.
(D) To certify that a product conforms to prescribed quality standards.

287. The passage suggests that alternative redressal mechanisms are important because they:
(A) are a substitute for consumer legislation.
(B) are primarily run by consumer organizations and cooperatives.
(C) offer a potentially faster and more accessible way to resolve disputes.
(D) focus on the process of product standardization.

288. Which of the following are mentioned in the text as entities that act as a collective voice for consumers?
(A) Standardization bodies and quality control labs.
(B) Consumer organizations and cooperatives.
(C) Legislatures and consumer courts.
(D) Manufacturers and advertisers.

289. Based on the passage, the role of "buying aids" is to:
(A) enforce consumer legislation.
(B) set uniform specifications for products.
(C) provide a legal framework for redressal.
(D) assist consumers in evaluating products before purchase.

290. What can be inferred about the role of consumer legislation from the paragraph?
(A) It provides the fundamental legal basis for consumer rights and redressal.
(B) It is the only component of the consumer protection system.
(C) It is less important than standardization and quality control.
(D) Its main function is to promote consumer cooperatives.

Direction : Please read the following source carefully.

Entrepreneurship is the dynamic process of designing, launching, and running a new business, which is often initially a small business. This process involves a sequence of steps, starting from idea generation to the establishment and management of the enterprise. However, the path of an entrepreneur is fraught with barriers, which can be financial, psychological, or environmental in nature. Overcoming these requires strong entrepreneurial motivation, which is the driving force that compels an individual to pursue entrepreneurial goals despite the risks and challenges. This motivation can stem from a need for achievement, a desire for independence, or the identification of a market opportunity. Aspiring entrepreneurs face numerous challenges, including securing capital, building a customer base, and navigating regulatory hurdles. A critical stage in launching a venture is project planning and appraisal. Project planning involves developing a detailed blueprint of the business, outlining its objectives, strategies, and resource requirements. Project appraisal is the subsequent evaluation of this plan's viability, assessing its technical, financial, and market feasibility. Once the project is deemed viable and launched, the focus shifts to enterprise management. This involves the day-to-day running of the business, applying principles of management to ensure operational efficiency, financial stability, and sustainable growth, thus bringing the entrepreneurial journey full circle from concept to a managed entity.
Based on the above source, attempt the following five questions.

291. According to the paragraph, what is the primary purpose of project appraisal?
(A) To generate a novel business idea.
(B) To manage the day-to-day operations of the business.
(C) To evaluate the viability and feasibility of a business plan.
(D) To motivate the entrepreneur to overcome challenges.

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ANSWERS

1. (B) The process of achieving organizational goals through planning, organizing, leading, and controlling.
Management serves as a systematic process aimed at reaching specific objectives within an organization. It encompasses key activities like planning future actions, organizing resources, leading people, and controlling outcomes to ensure alignment with goals. This integrated approach ensures that all efforts are coordinated and resources are utilized efficiently. It transforms individual efforts into a collective force focused on achieving long-term success, growth, and organizational sustainability.

2. (A) It is a specific perspective or a way of thinking about and executing management tasks.
An approach in management represents a distinct theoretical framework or viewpoint used to analyze and solve organizational problems. It provides a structured way of thinking about how tasks should be performed and how people should be managed. These perspectives vary based on the specific needs of the organization and the environment. By adopting a particular approach, managers can apply consistent logic to their complex decision-making processes.

3. (C) Time
Creating a schedule for household chores is a fundamental practice in time management. It involves the systematic allocation of available hours to specific tasks to ensure that all domestic responsibilities are met efficiently. By prioritizing duties and setting deadlines, family members can prevent procrastination and ensure a balanced distribution of labor. This organized approach maximizes productivity and allows for better coordination among all individuals within the household unit.

4. (D) Emotional intelligence
Primary resources in management typically include tangible or quantifiable assets such as time, energy, and money. These are the basic building blocks required to perform tasks and achieve objectives in various settings. While emotional intelligence is a valuable skill or trait for leadership and effective communication, it is categorized as a competency rather than a primary resource. Managing time, energy, and money requires objective planning to prevent depletion.

5. (A) P-3, Q-2, R-1, S-4
Resource management requires aligning specific assets with their appropriate functional focus to achieve optimal results. Time management involves scheduling and prioritizing tasks to meet deadlines. Energy management focuses on ergonomics and fatigue reduction to maintain productivity. Money management centers on budgeting and investment strategies for financial stability. Finally, space management involves layout and organization to improve flow and functionality. Together, these elements form a comprehensive framework for organizational and personal efficiency.

6. (B) Motivating factors
Motivating factors are the internal or external drivers that stimulate individuals to take action toward achieving desired goals. These factors influence the direction, intensity, and persistence of effort in a workplace or personal setting. By understanding what inspires people, managers can create environments that encourage high performance and satisfaction. Motivation theories categorize these drivers into various types, such as intrinsic rewards like personal growth and extrinsic rewards like financial incentives.

7. (C) Statement I is correct, but Statement II is incorrect.
Motivation theories are essential frameworks that explain human behavior and engagement within organizational contexts. They help leaders understand why people act the way they do and how to influence their commitment. Conversely, the effective management of resources is deeply intertwined with the motivation of the individuals involved. Since humans are the primary users and allocators of resources, their

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(A) is always less expensive and quicker than non-probability sampling.
(B) allows for the making of statistical inferences about the population.
(C) does not require a defined target population.
(D) relies on the subjective judgment of the researcher for accuracy.

299. Based on the source, which of the following is described as an initial step in the sampling procedure?
(A) Collecting data from the selected units.
(B) Defining the target population.
(C) Determining the sample size.
(D) Selecting the final sampling technique.

300. It can be inferred from the passage that a researcher might choose non-probability sampling over probability sampling due to:
(A) constraints related to time, budget, or access to the population.
(B) a desire to ensure every unit has an equal chance of selection.
(C) the need to make precise statistical generalizations to the whole population.
(D) the universal availability of a complete sampling frame for all studies.

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Using a pressure cooker to prepare food instead of an open pot is a prime example of resource conservation. This method primarily saves time, as the high-pressure environment cooks ingredients much faster than conventional methods. Additionally, it saves energy in the form of fuel or electricity because the heating duration is significantly reduced. By optimizing these two personal and material resources, individuals can increase their domestic efficiency while also reducing the environmental impact and cost associated with household cooking.

45. (C) Understanding their nature and how they can be managed.
The classification of resources serves the primary purpose of helping individuals and organizations understand the nature of their assets and how they can be effectively managed. By categorizing resources into types like human, material, and natural, managers can identify the unique characteristics and limitations of each group. This understanding is essential for developing appropriate strategies for allocation, conservation, and utilization. Rather than complicating management, classification provides a clear framework that supports logical planning and organized execution of tasks.

46. (D) Data
Natural resources are assets that exist in the environment without human intervention, such as land, forests, and water. These are essential for ecological balance and provide the raw materials for various human activities. Data, however, is a human-made resource generated through observation, computation, and communication. While it is incredibly valuable in the modern management of information and technology, it does not occur naturally in the physical world. Therefore, it is categorized as an informational resource rather than a natural one.

47. (C) P-3, Q-2, R-4, S-1
Managing natural resources involves addressing specific environmental challenges associated with their use. Land management must tackle issues like soil erosion and degradation to maintain productivity. Forest management focuses on preventing deforestation and the subsequent loss of biodiversity. Water management is concerned with addressing scarcity and preventing contamination from various pollutants. Finally, air management involves controlling pollution from industrial emissions and vehicular exhaust. Understanding these issues is critical for developing sustainable strategies that protect the environment for future generations to enjoy.

48. (B) The collection and storage of rainwater for reuse.
Water harvesting is the systematic process of collecting and storing rainwater for future reuse, rather than allowing it to run off into the ground or drains. This technique is an essential component of water management, especially in regions facing scarcity or drought. The stored water can be used for irrigation, gardening, and even household tasks after proper filtration. By implementing water harvesting, communities can reduce their reliance on groundwater and contribute to the sustainable conservation of this vital natural resource.

49. (B) Municipal solid waste management
A city government program that requires households to segregate waste into wet and dry categories is a key strategy in municipal solid waste management. This process facilitates the efficient treatment and disposal of urban refuse by separating organic matter from recyclable materials. Proper waste management reduces the volume of trash sent to landfills and minimizes the environmental hazards associated with uncontrolled garbage disposal. It also promotes sustainability by encouraging recycling and composting at the community level to protect public health.

50. (A) Both A and R are true and R is the correct explanation of A.
Sustainable development is a global framework designed to meet the needs of the present population without compromising the ability of future generations to satisfy their own needs. Achieving this balance requires the careful management of natural resources like land, water, forests, and air to prevent their depletion and degradation. By implementing sustainable practices, society can ensure long-term environmental health, economic stability, and social equity. Therefore, resource management is a critical pillar for the future of humanity.

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drive and interest significantly impact the overall efficiency and success of management.

8. (A) Both A and R are true and R is the correct explanation of A.
Effective decision-making serves as a fundamental pillar of successful management because it determines the direction of an organization. This process involves a systematic evaluation of various alternatives and the selection of the most suitable course of action to achieve a specific objective. By choosing the best path forward, managers can optimize resource allocation and resolve problems efficiently. The quality of these choices directly impacts the overall performance and goal attainment of any enterprise.

9. (C) Identifying and defining the problem
The initial phase of any decision-making process involves identifying and defining the problem that needs to be addressed. Without a clear understanding of the issue at hand, any subsequent steps, such as generating alternatives or evaluating options, would be ineffective. This step requires managers to gather relevant information and clarify the scope of the challenge. A precise definition ensures that the resulting solution targets the root cause rather than just the symptoms.

10. (A) It is relevant only in commercial and industrial settings, never in domestic households.
Space management is a universal principle applicable to both commercial industries and domestic households. It involves organizing the physical environment to maximize productivity and ensure a logical flow of movement. In a home setting, effective layout planning reduces clutter and improves the functionality of living areas. Conversely, poor management of physical surroundings leads to inefficiency and stress. Therefore, optimizing space is essential for creating a comfortable, productive, and well-organized environment in any context.

11. (B) 2, 3 and 4
Motivating factors encompass internal drives and external incentives that direct human behavior toward specific objectives. Understanding these elements is critical for effective leadership, allowing managers to inspire teams and improve morale. These factors are categorized as intrinsic, arising from personal satisfaction, or extrinsic, such as financial rewards. By recognizing these diverse influences, leaders can tailor management strategies to meet the unique needs of employees. This approach enhances organizational commitment and productivity, ensuring human capital potential.

12. (B) Time
Utilizing a planner to allocate specific hours for studying, leisure, and rest is a practical application of time management principles. This process involves creating a structured schedule to ensure that various daily activities receive adequate attention without causing burnout. By prioritizing tasks and setting time boundaries, individuals can enhance their personal productivity and maintain a balanced lifestyle. This systematic approach helps in achieving educational goals while allowing for necessary relaxation and recuperation throughout the day.

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13. (C) Poor management of personal energy
Persistent exhaustion and the inability to complete daily tasks effectively often signify the poor management of personal energy resources. Energy management involves balancing physical and mental exertion with adequate rest to maintain high levels of functionality. When an individual fails to regulate their efforts or neglects recovery, they experience fatigue that hampers their productivity. Addressing this issue requires identifying the causes of depletion and implementing strategies like work simplification, proper nutrition, and scheduled breaks.

14. (A) 3, 2, 1, 4
The logical sequence of management starts with planning, where objectives and strategies are established for the future. Once the plan is set, organizing occurs to arrange resources and define roles to execute the strategy. Controlling then follows to monitor progress and ensure that performance aligns with the original goals. Finally, evaluation provides a summative assessment of the entire process to identify successes and areas for improvement. This structured cycle ensures organizational accountability and efficiency.

15. (A) Planning
Planning is the primary management function that involves defining future objectives and

team is on track, the manager can determine if any corrective actions are necessary to stay aligned with the objectives. This ongoing oversight is vital for maintaining accountability and achieving success.

30. (D) Evaluation
Evaluation is the final function in the management process, serving to assess the degree to which an organization has achieved its planned goals. It involves a comprehensive review of the outcomes of various activities and projects to determine their effectiveness. This summative assessment provides valuable insights into the strengths and weaknesses of the management cycle. The results of evaluation are then used to inform future planning, ensuring a continuous loop of learning and improvement within the organization.

31. (A) Classification, characteristics, and factors affecting use.
Resources can be broadly understood by examining their classification, characteristics, and the various factors that affect their use. Classification helps categorize resources into types like human, material, or natural, while characteristics such as utility and scarcity define their value. Additionally, understanding external and internal factors, such as the family life cycle or economic conditions, explains why resource management strategies vary between individuals. This comprehensive perspective is essential for developing effective methods to allocate and conserve valuable assets.

32. (B) P-3, Q-1, R-4, S-2
Understanding the characteristics of resources is vital for effective management and decision-making. Utility refers to the ability of a resource to satisfy a human want or need. Accessibility describes the ease with which a resource can be obtained and used for a specific purpose. Interchangeability is the quality that allows one resource to be substituted by another, such as using alternative fuels. Finally, manageability indicates that a resource is subject to control and can be directed toward achieving goals.

33. (B) It is only applicable to natural resources like water and forests.
Resource conservation is a broad concept that involves using all types of assets wisely to prevent their depletion and ensure future availability. While it is frequently associated with natural resources like water and forests, it also applies to personal resources such as time and energy. Strategies for conserving human resources involve work simplification and efficiency techniques. Therefore, the idea that conservation only applies to the natural environment is incorrect, as the principle is universal across all manageable resources.

34. (A) Work simplification
Rearranging a kitchen to keep frequently used items within easy reach is a practical application of work simplification. This technique aims to reduce the physical effort and time required to complete a task by optimizing the work environment. By minimizing the number of steps taken and improving the layout, the homemaker conserves personal energy and enhances efficiency during cooking. Work simplification focuses on analyzing hand and body motions to find the most effective way to perform domestic chores.

35. (A) Both A and R are true and R is the correct explanation of A.
Work simplification techniques are designed to help individuals accomplish tasks with the minimum possible expenditure of time and energy. This is achieved by streamlining processes and improving the physical layout of the workspace. The 'classes of change' framework supports this goal by providing a systematic way to analyze and improve work methods, such as modifying body motions or tools. By applying these structured changes, managers and homemakers can significantly increase productivity while reducing the physical labor burden.

36. (D) A feeling of weariness or exhaustion resulting from physical or mental exertion.
In the context of resource management, fatigue is defined as a feeling of weariness or exhaustion resulting from physical or mental exertion. It represents a temporary depletion of an individual's energy resources, leading to a decrease in productivity and cognitive efficiency. Managing fatigue involves identifying its causes, such as repetitive tasks or poor ergonomics, and implementing recovery strategies. Recognizing

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supervision provides workers with the support and feedback necessary to improve their performance and productivity. By maintaining close contact with the workforce, supervisors act as a vital link between upper management and the operational level of the organization.

23. (A) Both A and R are true and R is the correct explanation of A.
Evaluation is a critical component of management because it provides the data necessary for continuous improvement and organizational growth. This function involves comparing actual results with the original objectives to identify specific deviations, successes, and failures. By analyzing these outcomes, managers can understand what worked and what did not, allowing them to refine future plans and strategies. This systematic review process ensures that the organization remains accountable to its goals and adapts to changing circumstances.

24. (A) The family's life cycle stage and its specific goals.
The availability and utilization of resources within a family are most directly influenced by its current life cycle stage and its specific goals. Each phase of family life, such as the expanding stage with growing children, creates different demands for time, money, and energy. Furthermore, the values and objectives held by the family members dictate how they prioritize their spending and efforts. These internal factors are the primary determinants of how a household manages its collective assets.

25. (C) Expanding family (with school-age children) - Increased need for space and money for education.
During the expanding family stage, where children are of school age, there is typically a significantly increased demand for both physical space and financial resources for education. This period requires careful budgeting to cover tuition fees, extracurricular activities, and larger living accommodations. Conversely, other stages like the contracting phase see a decrease in these specific needs as children become independent. Correctly identifying these peak demand periods is essential for effective long-term resource management and financial stability.

26. (A) Monitoring performance against standards.
The organizing function focuses on creating a structure for the organization by determining tasks, grouping them into departments, and establishing reporting relationships. It is about the arrangement of resources and people to implement plans effectively. Monitoring performance against established standards, however, is a characteristic of the controlling function rather than organizing. Controlling involves the ongoing assessment of work to ensure it aligns with objectives, whereas organizing provides the framework within which that work is carried out.

27. (A) 1 and 4
The family life cycle offers a useful framework for understanding how domestic needs and priorities change over time. Resource allocation strategies must adapt as a family moves from one stage to another to address shifting demands for time and money. However, financial needs are often highest during the expanding stage rather than the beginning. Additionally, the specific progression of these stages can vary across different cultures, meaning they are not universally identical for every family around the world.

28. (B) Organizing
Organizing serves as the essential bridge between the planning and controlling functions of management. While planning sets the goals and strategies, organizing provides the structural framework and resource allocation necessary to turn those plans into reality. Without a proper organization of roles and tasks, control mechanisms would have no clear performance standards or operational structure to monitor. By arranging the work environment and defining responsibilities, organizing creates the platform upon which performance is executed and measured.

29. (C) Controlling
When a manager reviews production reports to ensure the team is meeting its monthly targets, they are performing the controlling function of management. This activity involves monitoring current performance and comparing it against the predetermined standards or goals set during the planning phase. By identifying whether the

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determining the most effective strategies to achieve them. It acts as a roadmap for the organization, providing direction and a basis for coordinating activities across different departments. Through planning, managers anticipate potential challenges and allocate resources proactively to minimize risks. This forward-thinking process is essential for ensuring that all efforts are aligned with the long-term vision and mission of the entire enterprise.

16. (B) It is the process of monitoring performance and taking necessary corrective action.
The controlling function in management is the process of monitoring organizational performance to ensure that goals are being met. It involves establishing performance standards, measuring actual results, and comparing them against the original plan. When deviations are identified, managers take corrective actions to bring performance back on track. This function is vital for maintaining accountability and ensuring that resources are being used effectively to achieve the desired outcomes of the organization.

17. (B) P-4, Q-3, R-2, S-1
Management functions are defined by specific activities that contribute to organizational success. Planning involves defining future objectives and strategies to provide direction. Organizing is the act of establishing a formal structure of roles and responsibilities to carry out those plans. Supervision entails the direct oversight and guidance of subordinates as they perform their tasks. Finally, evaluation is the process of assessing outcomes against the original goals to determine the degree of success and identify improvements.

18. (A) Organizing
Organizing is the management function responsible for arranging and allocating work, authority, and resources among an organization's members. It creates a formal structure that defines how tasks are divided and how different departments interact to achieve common goals. By establishing clear reporting relationships and distributing duties, organizing ensures that every team member knows their responsibilities. This process is crucial for minimizing confusion and maximizing the efficient use of human and material assets within the firm.

19. (C) Statement I is correct, but Statement II is incorrect.
The family life cycle is a theoretical framework that describes the distinct stages a family progresses through over time, from formation to dissolution. Each stage brings unique challenges and priorities that influence how members interact. However, the availability and use of resources do not remain constant throughout these stages. Demands for time, money, and energy fluctuate significantly as families move from the beginning stage to expanding and eventually contracting stages, requiring continuous management and adaptation.

20. (B) 1, 3, 4, and 5
The core functions of management include planning, organizing, controlling, and evaluation. Planning involves setting goals, while organizing focuses on structuring roles and resources. Controlling ensures that performance matches the plans, and evaluation assesses the final results to improve future processes. While socializing is an important aspect of workplace culture and communication, it is not traditionally classified as a primary functional stage in the formal management process. These functions provide a systematic framework for achieving organizational objectives efficiently.

21. (C) The family life cycle stage
Variations in family spending patterns are primarily driven by the specific stage of the family life cycle. Families with young children often prioritize healthcare and education, as these are critical during the expanding stage. In contrast, retired couples in the contracting or retirement stage may shift their financial focus toward leisure, travel, and health maintenance. Understanding these stages allows for better financial planning and resource allocation to meet the evolving needs and goals of the household unit over time.

22. (B) The direct oversight and guidance of ongoing work and performance.
Supervision is a management function that involves the direct oversight and guidance of employees as they perform their daily tasks. It ensures that work is being completed according to established standards and that any immediate problems are addressed promptly. Effective

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the signs of fatigue is essential for maintaining health and ensuring that work is performed safely and effectively over time.

37. (C) Identifying causes and implementing strategies like rest and simplification.
The most effective approach to fatigue management involves identifying the underlying causes of exhaustion and implementing specific strategies to address them. This includes scheduling regular rest periods, ensuring adequate sleep, and utilizing work simplification techniques to reduce the physical and mental load of tasks. Rather than ignoring symptoms or relying on temporary stimulants like caffeine, a systematic approach focuses on sustainable energy conservation. This ensures that individuals can maintain a high level of performance without experiencing chronic burnout.

38. (C) 1, 2, 3, and 4
The 'classes of change' framework identifies several areas where work can be simplified to improve efficiency. These include changes in hand and body motions, work storage and equipment, the final product itself, and the raw materials used in production. By modifying these elements, individuals can reduce the time and energy required for a task. While changes in management hierarchy might affect organizational structure, they are not typically classified under these specific categories of physical work simplification methods.

39. (D) Work simplification
The 'classes of change' is a fundamental framework associated with the concept of work simplification. Developed to help analyze and improve efficiency, it identifies specific levels where modifications can be made to reduce effort. These levels range from simple changes in body movements to more complex alterations in tools, equipment, and product design. By systematically applying these changes, individuals can perform tasks more quickly and with less physical strain, which is the primary goal of work simplification in management.

40. (A) Both Statement I and Statement II are correct.
Time management is the process of prioritizing tasks and allocating specific blocks of time to achieve objectives efficiently. By focusing on high-priority duties and minimizing distractions, individuals can maximize their productivity throughout the day. Furthermore, effective time management is known to reduce stress levels, as it provides a sense of control over one's schedule and prevents the accumulation of unfinished work. These principles are essential for balancing professional responsibilities and personal well-being in a fast-paced environment with demands.

41. (C) Sunlight - Non-human Resource
Resources are categorized into different types based on their nature and origin. Sunlight is a non-human or natural resource because it exists independently of human effort and is available in the environment. In contrast, time is generally considered a human resource as it is intrinsically linked to an individual's life. Money is classified as a material or non-human resource rather than a natural one. Skills are also human resources, representing the knowledge and abilities individuals bring to various tasks.

42. (A) The brand name of the consumer cooperative.
The use of resources is influenced by several internal and external factors, including the individual's goals and values, the specific stage of the family life cycle, and the general availability of the resource. These elements determine how priorities are set and how assets are allocated to meet needs. However, the brand name of a consumer cooperative is not a direct factor that dictates the overall management and utilization of a family's fundamental resources like time, energy, and money.

43. (A) 2, 3, 4, 1
A basic time management process begins with listing all tasks and activities that need to be accomplished. Next, these tasks must be prioritized based on their level of urgency and importance to focus efforts on high-value work. Following prioritization, specific time slots are allocated for these tasks in a schedule. Finally, the plan is executed while consciously avoiding procrastination to ensure that all goals are met. This logical sequence provides a structured approach to increasing personal and professional efficiency.

44. (B) Time and Energy (fuel)

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292. The passage defines entrepreneurial motivation as:
(A) the driving force that compels an individual to pursue entrepreneurial goals.
(B) the set of barriers that hinder enterprise setting.
(C) the process of managing an established enterprise.
(D) the detailed blueprint of a business project.

293. Which of the following best describes the relationship between project planning and project appraisal?
(A) Appraisal is the process of creating a business plan, while planning is its evaluation.
(B) The two terms are synonymous and refer to enterprise management.
(C) Project planning addresses financial barriers, while appraisal addresses psychological barriers.
(D) Planning involves developing a business blueprint, which is then evaluated through appraisal.

294. Based on the text, "enterprise management" is concerned with:
(A) the initial phase of idea generation and project planning.
(B) the day-to-day running of the business to ensure efficiency and growth.
(C) overcoming the initial barriers to starting a business.
(D) the psychological driving force behind entrepreneurship.

295. The entrepreneurial process, as described in the source, can be characterized as:
(A) a risk-free and straightforward path to success.
(B) a process focused solely on securing financial capital.
(C) a dynamic sequence involving planning, overcoming challenges, and management.
(D) a journey that ends once the project appraisal is complete.

Direction : Please read the following source carefully.

In the conduct of research, sampling is a fundamental procedure that involves selecting a subset of individuals from a larger population to draw inferences about that population. The choice of sampling technique is critical as it directly impacts the generalizability and validity of the research findings. Sampling techniques are broadly categorized into two main types: probability sampling and non-probability sampling. Probability sampling is characterized by the principle that every unit in the population has a known, non-zero chance of being selected. This method is crucial for making statistical inferences about the population and includes techniques like simple random, stratified, and cluster sampling. In contrast, non-probability sampling does not afford every individual an equal chance of being selected; the selection is often based on the convenience or subjective judgment of the researcher. Techniques such as convenience, purposive, and quota sampling fall under this category. The sampling procedure itself is a step-by-step process that begins with defining the target population, determining the sampling frame, selecting a sampling technique, determining the sample size, and finally, collecting the data from the selected units. The decision to use probability or non-probability sampling depends on the research objectives, the availability of a sampling frame, and constraints such as time and budget.

Based on the above source, attempt the following five questions.

296. What is the defining characteristic of probability sampling as described in the passage?
(A) The selection of participants is based on the researcher's subjective judgment.
(B) It is used only when the population size is very small.
(C) The sample is selected based on ease of access and convenience.
(D) Every unit in the population has a known, non-zero chance of being selected.

297. According to the text, techniques like convenience and purposive sampling are examples of:
(A) non-probability sampling.
(B) probability sampling.
(C) sampling frame determination.
(D) statistical inference procedures.

298. The passage suggests that the main advantage of using probability sampling is that it:

51. (C) Sustainable Development Goals
The acronym 'SDGs' stands for Sustainable Development Goals, which are a collection of 17 global objectives established by the United Nations. These goals represent a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity by the year 2030. They cover a wide range of issues, including clean energy, climate action, and quality education. The SDGs provide a shared blueprint for countries to work together toward a more sustainable world.

52. (D) It involves the collection, treatment, and disposal of urban waste.
Municipal solid waste management is a comprehensive process that involves the collection, transportation, treatment, and final disposal of waste generated in urban areas. This activity is a critical responsibility of local governments to ensure public health and environmental protection. It encompasses various strategies, such as recycling, composting, and landfill management, to handle the diverse types of refuse produced by households and businesses. Effective waste management systems are essential for preventing pollution and maintaining the sustainability of modern cities worldwide.

53. (B) 1, 3 and 4
The management of natural resources is essential for maintaining ecological balance and has direct implications for human well-being and health. It is a key element of sustainable development, ensuring that vital assets like clean water and air remain available for future use. While governmental agencies play a major role in regulation and policy, the management of these resources also requires the active participation and responsibility of individuals and businesses. Everyone must contribute to conservation efforts to protect the environment.

54. (B) Economic growth, social equity, and environmental protection.
The concept of sustainable development is built upon three fundamental pillars: economic growth, social equity, and environmental protection. This framework emphasizes that long-term progress is only possible if all three aspects are balanced and addressed simultaneously. Economic activities must be conducted in a way that protects natural ecosystems and ensures that the benefits are shared fairly among all members of society. By integrating these three domains, sustainable development aims to create a world that is inclusive and healthy.

55. (C) Statement I is incorrect, but Statement II is correct.
Water harvesting is not a modern 21st-century invention; it is an ancient technique that has been practiced by various civilizations for thousands of years to manage water scarcity. However, the modern management of air as a resource is a critical contemporary issue that involves controlling pollution from industrial, agricultural, and transportation sources to protect public health. While the methods have evolved, the core goal of preserving air quality remains essential for the survival and well-being of all living organisms.

56. (A) Air
Unregulated industrial emissions and vehicular exhaust are the primary causes of the degradation in the quality of air. These sources release harmful pollutants like nitrogen oxides, sulfur dioxide, and particulate matter into the atmosphere, which can lead to serious respiratory health issues for humans and damage to the environment. Managing air as a natural resource requires strict regulations, the adoption of cleaner technologies, and a transition to sustainable energy sources. Protecting air quality is vital for ensuring a breathable environment.

57. (C) Balance conservation, biodiversity, and sustainable resource use.
The primary aim of forest management is to achieve a sustainable balance between conservation efforts, the protection of biodiversity, and the responsible use of forest resources. This approach ensures that forests continue to provide essential ecological services, such as carbon sequestration and habitat protection, while also meeting human needs for timber and other products. By implementing long-term management plans, organizations can prevent overexploitation and ensure that these vital natural ecosystems remain healthy and productive for current and future generations.

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wealth building by seeking to earn a profit from the saved resources.

73. (C) Household accounts
Household accounts refer to the detailed and systematic record-keeping of all money coming into and going out of a family unit. By documenting every transaction, families can gain a clear understanding of their cash flow and spending patterns over time. This information is invaluable for creating accurate budgets and identifying areas where expenses can be reduced. Maintaining consistent household accounts is a fundamental practice for anyone seeking to manage their finances responsibly and ensure long-term stability in reaching financial goals.

74. (A) 1, 2, 3, and 5
Family investment can take many forms, including buying stocks and bonds, purchasing real estate, or depositing money into fixed deposits to earn interest. Additionally, investing in a child's higher education is considered a form of human capital investment, as it increases the child's future earning potential and well-being. While buying a lottery ticket involves spending money for a chance at a return, it is generally considered gambling rather than a sound financial investment due to the extremely low probability of returns.

75. (B) Savings - To provide security and meet future goals.
Savings are funds set aside from current income specifically to provide financial security and meet future goals, such as retirement or major purchases. This reserve serves as a buffer against unexpected life events and emergencies. While a budget is a plan for future spending, it is not primarily for speculating on market trends. Similarly, investments are intended to generate a return or grow wealth, rather than just tracking past expenses. Understanding the distinct purpose of each financial tool is essential.

76. (B) Manpower planning
Manpower planning is a primary function of Human Resource Management (HRM) that involves forecasting the organization's future labor needs. It ensures that the company has the right number of people with the necessary skills at the right time to achieve its objectives. This process includes analyzing current employee capabilities and predicting future gaps caused by growth or turnover. By engaging in manpower planning, HRM departments can proactively manage recruitment and development to support the overall strategic goals of the organization.

77. (C) Estimating future human resource requirements.
Manpower planning in the context of Human Resource Management is the systematic process of estimating an organization's future human resource requirements. It involves analyzing the current workforce and determining how many employees, and with what specific skills, will be needed to meet future business objectives. This process helps the organization avoid both labor shortages and surpluses. By accurately forecasting demand, HR managers can develop effective recruitment, training, and retention strategies that align with the long-term vision of the company.

78. (D) P-3, Q-4, R-1, S-2
Human Resource Management involves several key activities focused on employee development. Manpower planning is the process of forecasting the supply and demand for labor within the organization. Training need assessment involves identifying performance gaps to determine if training can provide a solution. Training methodologies refer to the specific techniques, such as lectures or simulations, used to impart skills to employees. Finally, training evaluation is the process of measuring the effectiveness and overall impact of a training program on performance.

79. (A) To effectively utilize human capital to achieve organizational goals.
The primary need for Human Resource Management in any organization is to effectively utilize human capital to achieve specific goals and objectives. HRM focuses on attracting, developing, and retaining a talented workforce that can contribute to the company's success and competitive advantage. By managing employee performance, providing training, and ensuring a positive work environment, HRM departments help maximize the productivity and potential of every individual. This strategic focus on people

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outflows, allowing a family to track their spending habits and identify areas where they can save. By analyzing this historical data, households can create more realistic and accurate budgets for the future. This level of financial transparency is essential for monitoring the family's economic health and ensuring that they remain on the path toward achieving objectives.

66. (A) To meet future needs, emergencies, and long-term goals.
The primary purpose of saving is to set aside a portion of current income to meet future needs, handle emergencies, and achieve long-term goals. Saving provides a financial safety net that protects a family from unexpected expenses like medical bills or job loss. It also allows for the accumulation of funds for major life events, such as purchasing a home or funding a child's education. Effective saving is the first step toward building wealth and ensuring long-term financial security and peace.

67. (C) Statement I is correct, but Statement II is incorrect.
Family investment involves using saved money to purchase assets, such as stocks, bonds, or real estate, with the expectation of generating future income or capital appreciation. While savings and investment are related, they are not identical concepts. Saving is the act of setting money aside and preserving its value, often in low-risk accounts. Investment, however, involves putting that saved capital to work in ways that carry some level of risk but offer the potential for higher returns and wealth creation.

68. (A) 1 and 3
A family budget is a forward-looking plan for spending and saving that helps households control their expenditures and avoid falling into debt. It is a vital tool for families of all income levels to ensure their resources are used wisely. However, a budget should not be a rigid document; it must be flexible enough to be adjusted when financial circumstances or family goals change. By monitoring their budget regularly, families can stay on track and make informed decisions about their future.

69. (C) Tax implications
Tax implications refer to the consequences that financial decisions, such as earning income or making investments, have on the amount of tax a family is required to pay. Different types of income and investment vehicles are treated differently under tax laws, meaning some may offer benefits like deductions or exemptions. Understanding these implications is essential for effective money management, as it allows families to minimize their tax liability legally and maximize their after-tax income. This knowledge is key to making informed plans.

70. (B) Real income refers only to the cash received as salary or wages.
Real income is a broad category that refers to the flow of goods and services available to a family, rather than just the cash received as salary. It includes benefits like employer-provided housing, free medical services, or the value of produce grown in a home garden. Money income, on the other hand, consists of the actual currency earned from various sources. Understanding the difference between these types of income is important for accurately assessing a family's total purchasing power and well-being.

71. (A) 2, 3, 4, 1
The budgeting process begins with setting clear financial goals, which provide the motivation and direction for the plan. Next, the family must estimate their total income and all anticipated expenses to understand their financial boundaries. Based on these estimates, the budget is created by allocating specific funds to different spending categories and savings. Finally, spending must be monitored and compared with the budget regularly to ensure compliance and identify any necessary adjustments. This cycle ensures disciplined management of finances.

72. (A) Investment
Choosing to put money into a mutual fund instead of a regular savings account is an act of investment. This decision involves placing capital into a financial vehicle that pools money from many investors to buy a diversified portfolio of stocks or bonds. While it carries more risk than a traditional savings account, it offers the potential for higher returns and capital growth. This action demonstrates a proactive approach to

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Standardization is the process of developing and implementing technical standards based on the consensus of various stakeholders to ensure compatibility and quality. It provides a common language for manufacturers and consumers alike. However, quality control is not just a government function; it is a critical internal process performed by manufacturers to ensure their products meet both regulatory and company standards. While the government sets the rules and provides certification, the actual monitoring and improvement of production are primary business responsibilities.

116. (D) Standard Marks - Guarantee of a product's success in the market.
Standard marks like ISI or Agmark provide an assurance of quality and safety at the time of purchase, but they are not a guarantee of a product's long-term commercial success in the market. Success depends on many other factors, including consumer demand, competition, and marketing. While consumer organizations focus on advocacy and legislation provides legal protection, standard marks only certify that a product meets specific technical requirements. Therefore, incorrectly assuming that a mark guarantees business success is a misunderstanding.

117. (C) The product's agricultural quality and purity.
A consumer who buys a food product with an 'Agmark' seal is primarily assured of the product's agricultural quality and purity. Agmark is a certification mark employed on agricultural products in India, ensuring that they conform to a grade-standard approved by the Directorate of Marketing and Inspection. This seal helps consumers identify high-quality food items that are free from adulteration and have been processed under hygienic conditions. It is a vital tool for ensuring food safety in the sector.

118. (B) 1, 2, 3, and 4
The framework for consumer protection consists of several key elements: consumer organizations for advocacy, standardization marks for quality assurance, alternative redressal mechanisms for dispute resolution, and comprehensive consumer legislation for legal rights. Each of these components plays a distinct role in safeguarding the interests of the public in the marketplace. Conversely, schemes focused solely on maximizing manufacturer profits without regard for consumer welfare are not part of this protection framework. A balanced approach ensures fairness.

119. (D) Methods of resolving disputes outside of traditional civil courts.
Alternative redressal refers to methods of resolving consumer disputes outside of the traditional civil court system. This includes approaching specialized consumer forums, mediation, or arbitration centers that provide a faster and less formal process for addressing grievances. These mechanisms were created to overcome the delays and complexities often associated with regular litigation. By offering an accessible path to justice, alternative redressal ensures that consumers can efficiently seek compensation for defective goods or poor services, thereby strengthening their confidence.

120. (A) Consumer cooperative
A group of residents who form a society to buy groceries in bulk directly from wholesalers is a classic example of a consumer cooperative. The goal of this association is to provide its members with high-quality products at lower prices by leveraging their collective purchasing power. By bypassing retailers, the cooperative reduces costs and ensures that members have direct control over the products they consume. This model promotes economic self-reliance and protects members from high markups and potential unfair practices.

121. (C) The process of designing, launching, and running a new small business venture.
Entrepreneurship is the dynamic process of designing, launching, and running a new small business venture to achieve a profit. It involves identifying a market need and organizing the resources required to create a product or service that meets that need. An entrepreneur takes on the financial and personal risks associated with the startup in hopes of achieving growth and success. This concept is fundamental to economic development, as it drives innovation, creates jobs, and introduces new ideas.

122. (A) Identifying a business opportunity.

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is essential for driving innovation and long-term sustainability.

80. (A) Both A and R are true and R is the correct explanation of A.
Training Need Assessment is a critical first step in the training process because it ensures that resources are directed toward solving real performance problems. By identifying the specific knowledge and skill gaps that exist within the workforce, HR managers can design programs that are relevant and effective. This systematic analysis helps prevent the waste of time and money on unnecessary training that does not address organizational needs. Therefore, a well-conducted assessment is essential for creating high-impact learning experiences.

81. (B) Methodology choice depends on objectives, audience, and content.
Training methodologies are the various techniques used to deliver educational content to employees, and the choice of method depends on the specific objectives, the target audience, and the nature of the material. There is no single best methodology that fits all situations; instead, a mix of approaches, such as on-the-job training, workshops, and e-learning, is often most effective. By selecting the right methodology, organizations can ensure that employees acquire and retain the skills necessary to perform their roles.

82. (A) Training evaluation
Comparing pre-training and post-training performance scores is a clear example of training evaluation. This process aims to determine the effectiveness and impact of a training program by measuring changes in employee knowledge, skills, or behaviors. By analyzing these results, HR managers can assess whether the training goals were achieved and identify areas for future improvement. Evaluation is essential for demonstrating the value of training investments and ensuring that development activities contribute to the overall success and productivity of the organization.

83. (A) 1, 2 and 4
Human Resource Management involves a range of functions focused on the workforce, including manpower planning, training and development, and performance appraisal. These activities are designed to ensure that the organization has a capable and motivated team to achieve its goals. While production scheduling is an important management task, it is typically categorized under operations or production management rather than HRM. By focusing on people-related functions, HR departments support the overall efficiency and effectiveness of the entire organization.

84. (D) Marketing of the company's products
Human Resource Development (HRD) is a subset of HRM that specifically focuses on the growth and development of employees through activities like training, career planning, and organizational development. These functions aim to enhance the skills and competencies of the workforce for both current and future roles. However, the marketing of a company's products is a function of the sales and marketing department, not HRD. While marketing is essential for business success, it does not directly involve internal developmental processes.

85. (C) The performance gap between 'what is' and 'what should be'.
Training need assessment seeks to identify the specific performance gap between 'what is' currently happening and 'what should be' happening in an organization. By analyzing this discrepancy, HR managers can determine if the problem is caused by a lack of skills or knowledge that can be addressed through training. This process ensures that training programs are targeted and relevant, rather than being applied generically. It is a vital step for ensuring that time and resources are properly invested.

86. (C) Statement I is incorrect, but Statement II is correct.
While Human Resource Management (HRM) involves recruitment and selection, it also encompasses a wide range of other activities like compensation, labor relations, and safety. Human Resource Development (HRD) is a broader concept that specifically focuses on the continuous growth and development of employees to prepare them for current and future responsibilities. HRD aims to unlock the full potential of individuals and the organization through learning and development. Therefore,

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informed consumers is essential for a responsive market.

101. (B) 4, 2, 3, 1
When faced with a defective product, a consumer should first stop using the item to prevent further damage or safety risks. The next step is to contact the seller and provide proof of purchase to request a solution. If the complaint is not addressed, the consumer should send a formal legal notice. Finally, if the issue remains unresolved, they can approach the appropriate consumer redressal forum. This sequence ensures that the consumer acts responsibly while systematically seeking a legal remedy for grievances.

102. (B) Right to be informed and responsibility to be aware.
Carefully reading the ingredients list, nutritional information, and manufacturing date on a food package is an exercise of the consumer's right to be informed. This right ensures that individuals have access to the facts necessary to make healthy and safe choices. Simultaneously, this action fulfills the consumer's responsibility to be aware and critical of their purchases. By taking the time to verify product details, consumers can protect themselves from misinformation and ensure that items meet their personal dietary standards.

103. (D) Consumer Responsibility - To insist on a cash memo or bill.
A consumer responsibility is to insist on a cash memo or bill for every purchase made. This document serves as legal proof of the transaction and is essential if the consumer needs to seek redressal or file a complaint later. While advertisements should be truthful, a consumer's role is not to trust them blindly but to evaluate them critically. Additionally, consumer problems involve issues like unfair pricing or poor quality, and rights do not include damaging property for any reason.

104. (B) 1, 2, 3, and 4
Consumer responsibilities include being aware of product quality and safety, reading labels carefully before purchase, and asking for a cash memo as proof of transaction. Furthermore, consumers have a responsibility to file a formal complaint when they encounter a grievance to help improve market standards. However, engaging in hoarding or black marketing is an illegal activity that harms society and is not a consumer responsibility. By fulfilling these duties, individuals contribute to a fairer marketplace and protect their own interests.

105. (C) Providing consumers with skills and knowledge to protect interests.
Consumer empowerment means providing individuals with the necessary skills, knowledge, and confidence to protect their own interests in the marketplace. It involves educating people about their legal rights and responsibilities so they can make informed decisions and take action when they are treated unfairly. Empowerment shifts the balance of power from the seller to the buyer, ensuring that consumers are not easily exploited. This leads to a more transparent economic system where businesses must be accountable to an informed public.

106. (A) Consumer organizations
Consumer organizations are institutions formed by consumers themselves to promote and protect their collective interests. These groups play a vital role in advocacy, education, and providing assistance to individuals who have grievances against sellers or manufacturers. They work to influence government policy, conduct product testing, and spread awareness about unfair trade practices. By organizing together, consumers gain a stronger voice and can more effectively challenge large corporations and push for better standards of safety and honesty in the global marketplace.

107. (D) An association of persons united to meet common economic needs.
A consumer cooperative is an association of persons who unite voluntarily to meet their common economic needs through a jointly owned and democratically controlled enterprise. In the context of consumer protection, cooperatives aim to provide their members with high-quality goods and services at fair prices, often by buying in bulk directly from producers. This model eliminates the middleman and reduces the likelihood of exploitation. Cooperatives empower consumers by giving them direct control over the supply and quality of products.

108. (B) P-3, Q-4, R-1, S-2

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consumers to receive compensation or solutions for unsatisfactory services.

94. (D) A consumer should be aware and ask questions about purchases.
A key responsibility of a consumer is to be aware and ask questions about the products and services they purchase. This includes reading labels, understanding terms and conditions, and verifying the quality and price before making a transaction. By being vigilant and critical, consumers can protect themselves from fraud and substandard items. Rather than being passive, an active consumer takes responsibility for their choices and insists on obtaining proof of purchase, which is essential for seeking redressal if problems arise.

95. (A) Both A and R are true and R is the correct explanation of A.
Consumer education is a vital component of empowerment because it provides individuals with the knowledge and skills needed to navigate the marketplace safely. An educated consumer understands their legal rights and is better equipped to make informed choices based on accurate information. Furthermore, when problems occur, they know how to seek redressal through appropriate channels. By promoting consumer education, society can create a more balanced economic environment where individuals are protected from exploitation and can advocate for themselves.

96. (B) Consumer behavior
Consumer behavior is the study of the processes involved when individuals or groups select, purchase, use, or dispose of products, services, ideas, or experiences to satisfy their needs and desires. It examines the psychological, social, and economic factors that influence how people make spending decisions. Understanding consumer behavior is essential for businesses to develop effective marketing strategies and for policymakers to design better consumer protection laws. It provides insights into what drives people to choose specific brands.

97. (B) Being provided with too much accurate information.
Consumers face a variety of problems in the marketplace, including food adulteration, misleading advertisements, overcharging, and the use of incorrect weights and measures. These unfair practices can lead to financial loss and potential health risks. However, being provided with too much accurate information is generally not considered a problem; rather, the lack of clear and honest information is a major issue. Access to detailed and truthful data is essential for empowering consumers to make safe and effective choices.

98. (A) 1, 2 and 3
Fundamental consumer rights include the right to safety from hazardous goods, the right to be informed about product quality, and the right to seek redressal against unfair trade practices. These protections are essential for ensuring a fair and safe marketplace. However, consumers do not have a right to receive products for free; transactions in a market economy are based on the exchange of goods for consideration. These rights are balanced by responsibilities, such as paying a fair price for goods.

99. (C) To create a marketplace where consumers are informed and vigilant.
The ultimate goal of consumer education and empowerment is to create a marketplace where consumers are informed, vigilant, and capable of protecting their own interests. By providing individuals with the tools to understand their rights and responsibilities, education reduces the likelihood of exploitation by unscrupulous sellers. An empowered consumer population acts as a check on unfair business practices and encourages companies to maintain high standards of quality. This leads to a more transparent economy that benefits both buyers and sellers.

100. (C) Statement I is incorrect, but Statement II is correct.
The role of a consumer in a market economy is far from passive or insignificant; in fact, consumers are the primary drivers of economic activity. Their choices and behaviors send powerful signals to producers about what goods and services should be created and at what price. This concept, often called consumer sovereignty, means that the collective decisions of buyers determine the success or failure of products and businesses. Therefore, the active participation of

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HRD is an essential component of managing human capital effectively.

87. (D) Training Evaluation - Measuring program return on investment.
Training evaluation is the process used to measure the success and return on investment of a training program. It assesses whether the learning objectives were met and how the training influenced organizational performance. This function is essential for ensuring accountability in HR spending and for refining future development efforts. In contrast, manpower planning involves forecasting labor needs rather than firing people arbitrarily, and training methodologies are the techniques used for delivery, not for the initial assessment of needs.

88. (C) 1, 2, 3, and 4
Training methodologies include a variety of techniques designed to facilitate learning, such as lectures, seminars, case studies, role-playing, and on-the-job training. Each method offers different advantages depending on the skills being taught and the learning style of the participants. While manpower forecasting is an important part of human resource management, it is a planning activity rather than a specific methodology used to deliver training content. Selecting the right combination of these methodologies is crucial for creating an engaging and effective educational experience.

89. (C) Continuous employee training and development
Rapid technological changes in an industry create a constant need for employees to update their skills and knowledge, making continuous training and development a critical function of HRM. As new tools and processes emerge, organizations must ensure that their workforce remains competent and competitive. This requires a proactive approach to Human Resource Development that includes ongoing learning opportunities and upskilling programs. Failing to invest in employee growth during times of change can lead to obsolescence and a decline in overall organizational performance.

90. (A) Training evaluation
Training evaluation is the systematic process of determining the value, effectiveness, and overall quality of a training program. It involves gathering data to assess whether the participants learned the intended skills and if those skills are being applied in the workplace. This process helps organizations justify their training expenditures and identify areas where the programs can be improved. By providing feedback on the training's impact, evaluation ensures that development efforts are aligned with the strategic goals and needs.

91. (D) Any person who buys goods or avails services for personal use and consideration.
A consumer is generally defined as any person who buys goods or avails of services for personal use and consideration. This definition excludes individuals who purchase goods for resale or for large-scale commercial purposes, as they are considered traders or manufacturers. The concept of the consumer is central to protection laws, which aim to safeguard individuals from unfair practices in the marketplace. By recognizing who is a consumer, legal frameworks can provide specific rights and redressal mechanisms for individuals.

92. (B) The right to be informed about the quality and price of goods.
One of the fundamental rights of a consumer is the right to be informed about the quality, quantity, potency, purity, standard, and price of goods and services. This right ensures that consumers have access to the accurate information necessary to make wise and safe purchasing decisions. It protects individuals from being misled by deceptive advertising or incomplete product labeling. Being well-informed empowers consumers to compare different options and choose the products that best meet their specific individual needs.

93. (B) P-2, Q-1, R-4, S-3
Consumer rights are designed to protect individuals in the marketplace and ensure fair treatment. The Right to Safety protects consumers from hazardous products that could cause harm. The Right to Choose ensures access to a variety of goods and services at competitive prices. The Right to be Heard guarantees that consumer interests will receive due consideration in government policy and business practices. Finally, the Right to Redressal provides a mechanism for

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Standard marks provide consumers with an assurance of quality and safety for specific types of products. The ISI mark is used for industrial and consumer durable products, such as electrical appliances. Agmark is a certification for agricultural products, ensuring their purity and quality. The FPO mark is mandatory for processed fruit products like jams and juices to ensure they meet hygiene standards. Finally, Hallmark is used specifically for precious metals like gold and silver to certify their authenticity.

109. (C) Alternative redressal
Approaching a Consumer Dispute Redressal Forum instead of a traditional civil court is an example of using an alternative redressal mechanism. These specialized forums were established to provide consumers with a quicker, less expensive, and more accessible way to resolve their grievances. They handle cases involving defective goods, deficient services, and unfair trade practices. By providing a dedicated legal path for consumer issues, these forums ensure that individuals can seek justice and compensation without the long delays of litigation.

110. (A) Both A and R are true and R is the correct explanation of A.
Standardization and the use of standard marks like ISI and Agmark are essential tools for protecting consumers in the marketplace. These marks provide a visible assurance that a product has been tested and conforms to specific quality and safety standards set by recognized authorities. This helps consumers make informed purchasing decisions and avoid substandard or hazardous items. By reducing the information gap between buyers and sellers, standardization promotes trust and ensures that manufacturers are held accountable for quality.

111. (A) Ensure that products consistently meet certain standards of quality and safety.
From a consumer's perspective, the main purpose of quality control is to ensure that products consistently meet established standards of quality, safety, and performance. Quality control involves the systematic monitoring and testing of products during the manufacturing process to identify and correct defects before they reach the market. This protects consumers from purchasing faulty or dangerous goods and ensures that they receive value for their money. By maintaining high standards, quality control programs build consumer confidence and trust.

112. (B) A product review website or a consumer magazine report.
A buying aid is any resource that helps a consumer make an informed and wise purchasing decision. Independent product review websites or reports from consumer magazines are excellent examples, as they provide unbiased information about the performance, quality, and value of different brands. These aids help consumers compare options and identify the best products for their needs, reducing the risk of being misled by clever marketing or deceptive advertising. Using buying aids is a key part of responsible consumption.

113. (C) 1, 3 and 4
The consumer protection framework includes legislation that provides a legal basis for rights and redressal, as well as organizations that focus on education and advocacy. Alternative redressal systems offer a more efficient way to resolve disputes outside of traditional courts. However, standardization marks are not mandatory for all products; they are required only for specific items related to health and safety, though many manufacturers use them voluntarily to build trust. Together, these elements work to create a safer marketplace.

114. (A) Codify the rights of consumers and provide dispute resolution mechanisms.
The primary purpose of consumer legislation is to codify the legal rights of consumers and provide structured mechanisms for resolving disputes. These laws are designed to protect individuals from unfair trade practices, defective goods, and deficient services by giving them the power to seek redressal. By establishing clear rules for business conduct and consumer safety, legislation ensures that there is a level playing field in the marketplace. It provides a vital safety net that empowers consumers to hold manufacturers accountable.

115. (C) Statement I is correct, but Statement II is incorrect.

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58. (B) 1, 2, 3, and 4
Municipal solid waste management involves a range of practices designed to handle urban refuse effectively. This includes the use of landfills for disposal, composting for organic waste, incineration to reduce waste volume through burning, and recycling to recover valuable materials. Each of these methods plays a role in reducing the environmental impact of garbage. Water harvesting, while an important part of natural resource management, focuses on the collection of rainwater rather than the treatment and disposal of urban waste products.

59. (D) Land
Protecting topsoil from being washed away by water or blown away by wind is a key aspect of managing land resources. Topsoil is the most fertile layer of the earth, containing the nutrients necessary for plant growth and food production. Preventing soil erosion is essential for maintaining agricultural productivity and preventing the degradation of terrestrial ecosystems. Land management strategies include reforestation, terracing, and sustainable farming practices that help anchor the soil and protect it from the erosive forces of nature.

60. (B) they are legally binding international laws with financial penalties.
The Sustainable Development Goals (SDGs) are a set of 17 global objectives adopted by all United Nations member states to end poverty and protect the planet. While they represent a universal call to action and countries are expected to work toward them, they are not legally binding international laws with financial penalties for non-compliance. Instead, they serve as a shared policy framework and a commitment to collective progress. Each nation is responsible for developing its own strategies to achieve these targets.

61. (C) Family income
Family income is the total amount of money and purchasing power received by a household from various sources during a specific period, such as a month or a year. This includes earnings from salaries, wages, investments, and any other financial inflows. Income serves as the foundation for the family's financial security and dictates their ability to meet daily needs and future goals. Managing this income effectively through budgeting and saving is essential for achieving long-term economic stability and improving quality of life.

62. (A) P-4, Q-3, R-1, S-2
Family income can be classified into different types based on how it is received and perceived. Money income refers to the actual currency earned, such as wages or rent. Real income represents the flow of goods and services available to the family, including non-monetary benefits like a company car or homegrown vegetables. Psychic income is the satisfaction and enjoyment derived from using goods and services. Supplemented income includes additional earnings from part-time jobs or hobbies that increase the total financial resources.

63. (A) Family budget
A family budget is a systematic plan for managing a household's income and expenses over a specific period, such as a month or a year. It involves estimating expected earnings and allocating funds to various categories like housing, food, and savings. By following a budget, families can control their spending, avoid unnecessary debt, and ensure that they are making progress toward their financial goals. A well-designed budget provides a clear roadmap for financial stability and helps in making informed resource decisions.

64. (B) Income supplementation
Renting out a spare room to earn extra money is a practical example of income supplementation. This strategy involves utilizing existing assets to generate additional financial inflows beyond the family's primary earnings, such as salaries or wages. Supplementing income helps households meet unexpected expenses, increase their savings, or achieve their financial goals faster. It demonstrates an active approach to money management by identifying opportunities to increase the total purchasing power of the family through various creative and productive supplemental activities.

65. (A) Both A and R are true and R is the correct explanation of A.
Maintaining detailed household accounts is a crucial component of effective money management. These accounts provide a comprehensive record of all financial inflows and

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A key element in the process of entrepreneurship is identifying a business opportunity that can be turned into a viable venture. This involves observing market trends, recognizing unmet customer needs, and finding creative solutions to existing problems. Entrepreneurs are defined by their ability to spot these opportunities where others see obstacles. Once an opportunity is identified, the entrepreneur must then proceed to plan, secure resources, and manage the risks involved in bringing their vision to life.

123. (B) P-3, Q-1, R-4, S-2
Entrepreneurship involves several distinct components that contribute to the success of a new venture. Entrepreneurial motivation refers to the internal drive and factors that inspire an individual to start a business. Barriers to entrepreneurship are obstacles like a lack of capital or fear of failure that can discourage potential founders. Project appraisal is the critical process of assessing the viability and feasibility of a business idea before launch. Finally, enterprise management involves the ongoing day-to-day operations.

124. (B) Strong government support and easy regulations are major barriers.
Barriers to entrepreneurship are factors that hinder or discourage individuals from starting and growing a business. Common obstacles include a lack of access to financial capital, fear of personal failure, and a deficiency in the necessary skills and knowledge. However, strong government support and easy, clear regulations are generally considered enablers of entrepreneurship rather than barriers. When the regulatory environment is supportive, it reduces the complexity and risk for new ventures, making it easier for motivated founders.

125. (A) Both A and R are true and R is the correct explanation of A.
Project planning and appraisal are essential steps before launching any new enterprise because they provide a structured way to evaluate the potential of a business idea. These processes involve analyzing market demand, technical requirements, and financial forecasts to determine if the venture is viable and sustainable. By identifying potential risks and challenges early on, entrepreneurs can make informed decisions and refine strategies to increase success. This assessment minimizes the likelihood of costly failures and ensures efficient resource use.

126. (D) Internal factors like independence and achievement driving business start-ups.
Entrepreneurial motivation is the set of internal factors that drive an individual to take the risk of starting a new business. Key motivators often include a high need for achievement, a desire for personal independence, and the passion to bring a new idea to life. Unlike those who prefer the stability of a salaried job, entrepreneurs are energized by the challenge of creating something from scratch and being their own boss. This intrinsic drive sustains them through difficulties.

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127. (C) Statement I is correct, but Statement II is incorrect.
Enterprise setting refers to the initial process of establishing the legal, financial, and operational framework of a new business venture. It is a foundational stage where the business is officially born. However, enterprise management is not a one-time activity; it is a continuous and ongoing process that involves the day-to-day planning, organizing, leading, and controlling of the business after it has been launched. Managing an enterprise requires constant adaptation to ensure the business remains competitive and successful.

128. (B) 1, 2 and 3
Entrepreneurs face numerous challenges as they build their businesses, including securing initial and ongoing funding, building a loyal customer base from scratch, and managing daily cash flow to stay solvent. These obstacles require resilience and strategic planning to overcome. While high market demand is generally a positive sign for a business, it can become a challenge if the entrepreneur cannot scale production or service quickly enough to meet it. Most common hurdles are related to financial establishment.

129. (B) Project appraisal
Project appraisal is the systematic and detailed evaluation of a proposed business project to determine its overall viability and feasibility. It involves analyzing various aspects of the plan, including its financial potential, technical requirements, and market demand. The goal of appraisal is to provide an objective assessment of

159. (A) Entrepreneurship is a guaranteed path to success with no chance of failure.
Entrepreneurship is a challenging and inherently risky endeavor that involves innovation and risk-taking; it is never a guaranteed path to success without the possibility of failure. Many new ventures face significant obstacles, and a large number do not survive the first few years. Success requires identifying a real market opportunity and having the motivation and resilience to navigate uncertainty. Understanding that risk is a fundamental part of the process is essential for making realistic plans for growth.

160. (B) Snowball Sampling
Snowball sampling is a non-probability technique that is particularly effective for studying hidden or hard-to-reach populations, such as homeless individuals or people with rare conditions. It involves starting with a small number of known participants who then refer the researcher to other members of their social network. This creates a "snowball" effect as the sample size grows through these referrals. While this method is not random, it allows researchers to gain access to groups that would otherwise be difficult.

161. (B) Energy
Energy is the personal resource defined as the mental and physical effort expended by an individual to accomplish a specific task. Like time and money, energy is a limited resource that must be managed carefully to avoid fatigue and maintain productivity. Effective energy management involves balancing exertion with rest, using work simplification techniques to reduce strain, and maintaining good health and nutrition. By being mindful of use, individuals can perform their daily responsibilities more efficiently and maintain life.

162. (A) Controlling
Setting performance standards, measuring actual performance against those standards, and taking corrective action when necessary are the three core steps of the controlling function of management. This process ensures that the organization stays on track to achieve its goals as established during the planning phase. Controlling provides the feedback loop necessary for accountability and for identifying where improvements are needed in operations. It is a continuous activity that helps managers monitor organization health and respond to deviations.

163. (B) 2, 3, 4, and 5
Effective fatigue management requires a proactive approach that includes ensuring adequate rest and sleep to allow for physical and mental recovery. Implementing work simplification techniques reduces the overall strain of tasks, while taking regular breaks during long periods of work helps maintain focus and energy. Additionally, maintaining a balanced diet and proper hydration provides the fuel necessary for peak performance. Ignoring early signs of tiredness is counterproductive, as it can lead to more severe exhaustion and injuries.

164. (D) The Sustainable Development Goals (SDGs)
The Sustainable Development Goals (SDGs) are a global agenda consisting of 17 interconnected objectives adopted by all United Nations Member States in 2015. This universal call to action includes goals specifically aimed at environmental health, such as 'Clean Water and Sanitation' and 'Climate Action'. The SDGs provide a common framework for countries to address the world's most pressing challenges, from poverty to environmental degradation. They aim to achieve a sustainable, equitable, and peaceful future for all.

165. (C) Statement I is incorrect, but Statement II is correct.
While some might think a budget is a fixed document, it is actually a flexible tool that should be adjusted as financial circumstances or family priorities change. It is not meant to be a rigid restriction but a guide for wise spending. The core benefit of budgeting is that it helps a family live within its means and allocate resources toward achieving its long-term financial goals. By tracking income and expenses, households can identify areas for savings and improvement.

166. (B) To assess the effectiveness of a training program.
The primary purpose of training evaluation in Human Resource Management is to assess the effectiveness and impact of a training program. This involves measuring whether the participants acquired the intended skills and if the training led to improvements in workplace performance.

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probability sampling. Probability sampling involves random selection, ensuring that every member of the population has a known and non-zero chance of being included. This allows for statistical generalization of results. Non-probability sampling, on the other hand, involves selecting participants based on non-random criteria such as convenience or judgment. While non-probability sampling is often easier to conduct, it does not allow for statistical confidence in generalizations.

138. (B) P-2, Q-1, R-4, S-3
Different sampling methods are based on distinct principles for selecting participants. Probability sampling is based on the idea that every population member has a known, non-zero chance of selection. In non-probability sampling, selection is based on the researcher's judgment or ease of access. Simple random sampling is a specific probability method where everyone has an equal chance of being chosen. Convenience sampling is a non-probability method where the researcher selects participants who are easily accessible and readily available.

139. (D) results can be generalized to the population with statistical confidence.
Probability sampling is a rigorous research method where every element of the population has a known and non-zero chance of being selected. This randomization minimizes bias and ensures that the sample is representative of the whole group. As a result, the findings from a study using probability sampling can be generalized back to the entire population with a high degree of statistical confidence. While it requires more resources than non-random methods, it provides more reliable data for broad conclusions.

140. (B) Both A and R are true but R is not the correct explanation of A.
Non-probability sampling methods are frequently used in exploratory research when the goal is to gain a preliminary understanding of a topic rather than to make precise statistical generalizations. In these methods, participants are not chosen at random, which means not everyone has a chance of being selected. While this makes data collection faster and more convenient, it limits the ability of the researcher to apply the findings to the entire population with certainty. Both statements describe different aspects.

141. (C) Simple Random Sampling
Simple random sampling is the most basic form of probability sampling, where every element in the population has an equal and independent chance of being selected for the study. This means that the selection of one individual does not influence the selection of another. This method is considered highly scientific because it eliminates researcher bias and increases the likelihood that the sample will be representative of the entire population. It requires a complete list of all population members.

142. (D) Convenience Sampling
Interviewing the first 100 people who happen to be available at a specific location, such as outside a mall, is a classic example of convenience sampling. This is a non-probability sampling technique where participants are selected based on their easy accessibility to the researcher. While this method is very quick and cost-effective, it is highly prone to bias and does not produce a representative sample of the general population. The results from such a study should be interpreted with caution.

143. (B) 2, 3 and 4
Non-probability sampling techniques involve selecting participants based on non-random criteria rather than chance. Common methods include quota sampling, where specific subgroups are represented in set proportions; convenience sampling, based on ease of access; and purposive or judgmental sampling, where the researcher selects individuals with specific expertise. Unlike simple random sampling, which is a probability-based method, these techniques do not allow for statistical generalization to the whole population. They are useful for exploratory or pilot research.

144. (B) It allows for the estimation of sampling error and enhances generalizability.
The main advantage of probability sampling over non-probability methods is that it allows researchers to estimate sampling error and significantly enhances the generalizability of the findings. Because participants are chosen at random, the researcher can use statistical techniques to determine how closely the sample

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Mundel's 'classes of change' is a systematic framework used to analyze and improve work methods as part of the concept of work simplification. This approach identifies different levels where efficiency can be increased, ranging from simple changes in hand and body motions to more complex modifications in tools, equipment, and final product design. By applying these categories, individuals can identify ways to perform tasks with less time and energy. It is a fundamental tool for improving productivity.

190. (B) Using land judiciously for agriculture, industry, and conservation.
The management of land resources involves the judicious and sustainable use of land for various purposes, including agriculture, industry, residential development, and conservation. It requires a balanced approach that protects the environment, maintains soil health, and ensures that land is available for the needs of future generations. Effective land management strategies help prevent soil erosion, deforestation, and uncontrolled urban sprawl. By planning land use carefully, society can promote economic development while also preserving vital natural ecosystem health.

191. (A) To track and understand current income and spending patterns.
The most important first step in creating a family budget is to track and understand your current income and actual spending patterns over a period of time. This process provides the baseline data necessary to make realistic financial plans for the future. Without knowing where money is currently being spent, it is difficult to identify areas for saving or to set achievable financial goals. This historical insight is the foundation of effective money management and financial security.

192. (C) Manpower planning
In the context of Human Resource Management, the process of identifying the gap between the number of employees an organization currently has and the number it will need in the future is known as manpower planning. This involves forecasting future business needs and predicting employee turnover to ensure that the company has a sufficient and skilled workforce. By conducting manpower planning, organizations can proactively manage their recruitment and training efforts to prevent labor shortages, which is essential for strategic goals.

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193. (D) Exploit the seller
Consumers are protected by a set of fundamental rights, including the right to be informed about products, the right to choose from a variety of options, and the right to seek redressal for grievances. These protections are designed to ensure a fair and safe marketplace for individuals. However, consumers do not have a right to exploit or mistreat the seller. Transactions in a market should be based on mutual respect and fair exchange. Fulfilling responsibilities is as important as rights.

194. (C) Statement I is incorrect, but Statement II is correct.
Project appraisal is the specific, pre-launch process of evaluating the feasibility and viability of a new business idea to see if it is worth pursuing. It is an evaluation phase, not a day-to-day operational one. Conversely, enterprise management refers to the ongoing activities of planning, organizing, leading, and controlling a business after it has been established. While appraisal is about making the decision to start, management is about ensuring the venture's continued success and growth in the long term.

195. (B) Probability sampling - Selection is based on random chance.
Probability sampling is defined by its nature of using random selection, where every individual in the population has a known and non-zero chance of being chosen for the study. This randomization is the foundation for making statistical generalizations about the larger population. In contrast, non-probability sampling makes statistical inference difficult because participants are not chosen by chance. Understanding the difference between these types is critical for researchers to ensure that their data collection methods match their specific goals.

196. (D) Controlling
When a manager reviews weekly performance reports to ensure the team is meeting its predetermined targets, they are engaging in the controlling function of management. This function involves monitoring ongoing activities,

them to accomplish more in less time. This concept is vital for effective time and resource management in both domestic and professional settings.

152. (A) It involves choosing one option from a set of alternatives.
Decision-making is a core management activity that involves identifying a problem and choosing the most appropriate course of action from a set of available alternatives. It is a logical and systematic process that requires gathering information and evaluating the potential consequences of each choice. Effective decision-making is necessary at all levels of an organization, from daily operational tasks to long-term strategic planning. By making informed and timely choices, managers can ensure that resources are utilized efficiently.

153. (B) 1, 2 and 3
Several key factors influence how a family manages and utilizes its resources, including its specific goals and values, its current stage in the family life cycle, and the number, age, and sex of its members. These internal characteristics determine the types of demands placed on time, money, and energy. While broad political or economic conditions may have some influence, they are not the primary drivers of an individual family's daily resource allocation decisions compared to these household factors.

154. (A) Organizing
When a manager creates a departmental structure, assigns specific roles, and defines clear reporting lines, they are performing the organizing function of management. This function focuses on arranging human and material resources into a coherent framework that allows for the effective execution of plans. By establishing who is responsible for what and how different parts of the organization relate to each other, organizing ensures that work is coordinated and efforts are not duplicated, leading to efficiency.

155. (D) Psychic Income
Psychic income is a non-monetary form of income that represents the satisfaction, enjoyment, and mental well-being a family or individual derives from the use of their goods, services, and other resources. Unlike money income, which is tangible, or real income, which consists of actual benefits, psychic income is entirely subjective and psychological. It reflects the emotional reward of achieving financial security or enjoying a pleasant home environment. Understanding psychic income is important for assessing the overall quality of life.

156. (B) Increasing air pollution
The management of natural resources is focused on the conservation and sustainable use of the environment to maintain ecological health. This includes techniques like water harvesting to save rainfall, municipal solid waste management to reduce pollution, and forest conservation to protect biodiversity. Increasing air pollution is contrary to the goals of resource management, which instead aims to reduce emissions and improve air quality for all living beings. Therefore, protecting and restoring natural resources is essential for long-term sustainability.

157. (C) Statement I is incorrect, but Statement II is correct.
Consumer cooperatives are not for-profit businesses owned by external investors; rather, they are associations owned and democratically controlled by the consumers themselves to meet their common needs. Their goal is to provide quality goods at fair prices to their members. On the other hand, consumer organizations are institutions that work specifically to educate individuals about their rights and to advocate for their protection in the marketplace. While structures differ, both types play a critical role in empowering consumers.

158. (D) Determine if a performance problem can be solved by training.
The most fundamental reason for conducting a training need assessment is to determine whether a specific performance problem within an organization can actually be solved by training. Sometimes performance issues are caused by other factors, such as poor equipment, lack of motivation, or unclear instructions, which training cannot fix. By performing an assessment, HR managers can ensure that their time and budget are invested in development activities that will truly address the root cause of the skill gap.

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results reflect the true population values. This provides a scientific basis for making broad conclusions and making predictions with a known level of confidence. This reliability is essential for high-quality quantitative research studies.

145. (C) Statement I is correct, but Statement II is incorrect.
The selection of a sampling technique is a critical decision in any research project and depends on factors like the research objectives, the available budget and time, and the nature of the population being studied. Each method has its own strengths and weaknesses. However, it is incorrect to say that probability sampling is always the best choice for every study; in some exploratory or qualitative research scenarios, non-probability methods like purposive or convenience sampling may be more practical.

146. (A) A larger sample size always guarantees a more representative sample, regardless of the sampling method.
It is a common misconception that a larger sample size always guarantees a more representative sample. In reality, the representativeness of a sample depends primarily on the sampling method used. A very large sample chosen through biased or non-random methods, such as convenience sampling, will still yield biased results that cannot be accurately generalized to the population. While size is important for statistical power, the technique of selection is the most fundamental factor in ensuring scientific validity.

147. (C) Stratified Sampling - Dividing population into subgroups and sampling from each.
Stratified sampling is a probability method that involves dividing the entire population into distinct subgroups, or strata, based on shared characteristics like age or income, and then randomly sampling from each group. This ensures that the final sample is representative of all important parts of the population. In contrast, probability sampling is objective rather than subjective, and convenience sampling is often biased rather than highly representative. Correctly identifying these methods is essential for choosing the most appropriate research approach.

148. (B) 1, 3, and 4
Probability sampling methods are defined by their use of random selection to ensure representativeness. These include simple random sampling, where everyone has an equal chance; stratified sampling, which samples from specific subgroups; and cluster sampling, which involves selecting entire groups from the population. Convenience sampling and snowball sampling are non-probability methods because they rely on ease of access and referrals rather than random chance. By using probability-based techniques, researchers can ensure their data is statistically sound.

149. (C) The step-by-step rules and process for selecting the sample.
The sampling procedure refers to the specific, step-by-step rules and process used by a researcher to select the sample from the larger population. It outlines exactly how participants will be identified and contacted to ensure consistency and minimize bias during the data collection phase. A clearly defined procedure is essential for the replication of a study and for assessing the validity of the research findings. It serves as the operational guide for the implementation of chosen techniques.

150. (B) Probability sampling
When a researcher's primary goal is to ensure that their findings can be statistically generalized from the sample to the entire population, they should ideally use a probability sampling method. Techniques like simple random, stratified, or cluster sampling use random selection to ensure that the sample is a miniature, representative version of the larger group. This allows the researcher to use mathematical principles to calculate the level of confidence they have in their results. Non-random methods lack this basis.

151. (D) Work simplification techniques
Work simplification techniques are systematic methods designed to help individuals perform tasks with the least possible expenditure of time and energy. These techniques focus on improving efficiency by analyzing body motions, optimizing the workspace layout, and using better tools. By simplifying chores and workflows, people can reduce both physical and mental fatigue, allowing

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Evaluation helps organizations determine if their investment in development was worthwhile and provides data to improve future training efforts. By systematically reviewing the results, HR managers can ensure that training activities are high-quality, relevant, and supportive.

167. (D) Consumer interests will receive consideration in appropriate forums.
The 'Right to be Heard' is a fundamental consumer right that ensures consumer interests will receive due consideration and representation in various forums. This means that when policies are being made or when disputes arise, the voices and concerns of consumers must be taken into account by businesses and government bodies. It empowers consumers by ensuring they have a platform to express their grievances and influence the quality and safety standards of products and services they use.

168. (D) Project planning and appraisal
Project planning and appraisal is the formal process used to assess the viability and potential success of a proposed business venture. It involves a detailed analysis of the market demand, technical feasibility, and financial projections for the idea. This assessment helps entrepreneurs and investors understand the risks and rewards before committing significant time and money to a startup. By identifying potential problems early and verifying sustainability, appraisal reduces the chance of business failure and ensures a strategic launch.

169. (B) Stratified Sampling
Dividing a population into distinct subgroups based on a shared characteristic, such as gender, and then selecting a random sample from each group is the process of stratified sampling. This technique ensures that each important part of the population is proportionally represented in the final sample, which improves the accuracy and representativeness of the research findings. It is particularly useful when the researcher wants to compare different segments of a population or when some groups are relatively small.

170. (C) Family life cycle
The family life cycle is the series of distinct stages that a family typically progresses through over time, from its formation through marriage or cohabitation to its final dissolution. Common stages include the beginning family, the expanding family with children, the contracting family as children leave, and the final retirement stage. Each phase brings unique psychological, social, and economic demands that require constant adjustment in how resources like time and money are managed. Understanding this cycle is essential.

171. (D) All resources are unlimited in supply.
A fundamental principle of resource management is that resources are generally limited or scarce in relation to human wants and needs; they are not unlimited in supply. This scarcity is what makes the management process—including planning, organizing, and controlling—so essential for both individuals and organizations. Whether it is time, money, energy, or natural resources like water, the availability of these assets is finite. Therefore, they must be used wisely and conserved to ensure goals are met.

172. (A) Reduce, Reuse, Recycle
The '3Rs'—Reduce, Reuse, and Recycle—are the core principles of sustainable municipal solid waste management. 'Reduce' focuses on minimizing the amount of waste generated in the first place. 'Reuse' involves finding new ways to use items rather than throwing them away. 'Recycle' is the process of collecting materials like paper, plastic, and glass and processing them into new products. By following these three steps, individuals and communities can significantly decrease their environmental impact and conserve natural resources.

173. (C) Statement I is correct, but Statement II is incorrect.
Tax implications are a vital consideration when making family savings and investment decisions, as they can significantly affect the actual return on money. Different investments are taxed at different rates, and some offer benefits like deductions that reduce taxable income. However, it is incorrect to say that all investment returns are tax-free; in reality, most forms of profit, such as interest, dividends, and capital gains, are subject to government taxes. Understanding these rules is essential for maximizing after-tax income.

174. (B) Human resource management

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whether the project is worth investing in and if it is likely to succeed in the long run. This process is crucial for helping entrepreneurs and investors make informed decisions.

130. (A) Entrepreneurial motivation
An individual who possesses a high need for achievement, a willingness to take calculated risks, and a strong desire for personal independence is said to have high entrepreneurial motivation. These traits are common among successful founders and are the primary drivers that lead them to start and sustain new business ventures. This internal motivation helps them overcome the many obstacles and uncertainties inherent in entrepreneurship. By focusing on their goals, these individuals drive innovation and economic growth.

131. (A) 2, 1, 4, 3
The entrepreneurial process begins with identifying a business opportunity that meets a market need. Once found, the entrepreneur develops a business plan to outline how the venture will succeed. The third stage is launching the enterprise, which involves securing resources and officially starting. Finally, the focus shifts to managing and growing the enterprise through ongoing operations. This logical progression ensures the business is built on a solid foundation. Following these steps helps entrepreneurs navigate the complexities of starting ventures.

132. (D) Enterprise management
Enterprise management is the continuous process of steering and controlling a business's operations after it has been successfully launched. It involves the regular application of management functions like planning, organizing, leading, and controlling to ensure that the venture meets its goals and remains sustainable. This ongoing management is vital for navigating market changes, handling growth, and solving the daily problems that arise in any business. Without effective management, even the most innovative enterprise can fail to reach potential.

133. (C) Project Appraisal - Preparing a detailed financial forecast for a new venture.
Project appraisal is the specific task of preparing a detailed financial and operational forecast to evaluate the viability of a new business venture. This process helps entrepreneurs determine if their idea is likely to generate a profit and survive in the competitive market. In contrast, high motivation is the opposite of an entrepreneurial barrier, and enterprise management is an ongoing activity rather than just the initial idea. Correctly matching these terms is essential for understanding the different venture stages.

134. (C) 1, 2, 3, and 4
Project planning and appraisal involve a comprehensive assessment of several key areas to determine the feasibility of a new business. These include market feasibility to ensure demand, technical feasibility to verify production capabilities, financial feasibility to project costs and profits, and managerial competence to ensure leadership can execute the plan. While the color of a company logo is part of branding, it is not a core factor in evaluating the fundamental viability of a proposed project.

135. (D) Barriers
Regulatory hurdles and a lack of access to start-up capital are significant barriers that can hinder the entrepreneurial process. These obstacles make it difficult for motivated individuals to turn their ideas into successful businesses by increasing the cost and complexity of launching a venture. While motivators like achievement drive entrepreneurs forward, barriers like these can delay or even prevent the birth of new enterprises. Overcoming these challenges often requires great resilience, strategic planning, and improved environmental policy.

136. (A) Selecting a subset from a larger population to make inferences about the whole.
In research methods, a sampling technique is the process of selecting a specific subset, or sample, from a larger population. The goal of sampling is to collect data from this smaller group in order to make accurate inferences or generalizations about the entire population. This approach is used when it is impractical to study every single member of a large group due to constraints in time, cost, and energy. A well-chosen technique ensures results are representative.

137. (C) Probability and non-probability sampling.
The two major categories of sampling methods used in research are probability and non-

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term health of the planet's natural resources and the fair distribution of wealth and opportunities. It is a universal call to ensure future well-being.

182. (C) Real Income
Real income refers to the actual flow of goods and services that a family can access and use, regardless of their cash earnings. This includes benefits such as employer-provided housing, a company car, free health services, or even the food produced in a home garden. While money income provides purchasing power, real income represents the tangible assets and services that contribute to the family's overall standard of living. Assessing real income is important for understanding the true economic status.

183. (A) Keeping employees' skills and knowledge up-to-date.
One of the most significant challenges in Human Resource Development (HRD) today is the rapid pace of technological and social change, which requires organizations to constantly keep their employees' skills and knowledge up-to-date. As new tools and methods are introduced, businesses must invest in continuous learning and development programs to remain competitive and innovative. Failing to adapt to these changes can lead to a skills gap that hinders productivity. Aligning development with evolving goals is a key responsibility.

184. (A) Both Statement I and Statement II are correct.
The 'Right to Safety' is a vital protection for consumers, ensuring that they are shielded from goods and services that could be hazardous to their life or property. This right holds manufacturers accountable for the safety of the products they sell. However, this right is balanced by a consumer responsibility to use products safely and as intended by the manufacturer's instructions. By following safety guidelines and being aware of potential risks, consumers can protect themselves while upholding market standards.

185. (B) Entrepreneur
An individual who identifies a unique market opportunity, such as a novel mobile application, and takes the initiative to develop it, secure funding, and launch it as a business is acting as an entrepreneur. Entrepreneurship involves the process of creating and managing a new venture while taking on the associated financial and personal risks. This role is essential for driving innovation and economic development, as entrepreneurs transform creative ideas into real-world products and services that satisfy consumer needs.

186. (C) Non-probability sampling
In research, a sampling procedure where the selection of participants is left to the personal discretion or judgment of the interviewer is known as non-probability sampling. This category includes methods like convenience or purposive sampling, where individuals are not chosen through a random process. While these methods are often easier and more flexible to implement than probability sampling, they are more susceptible to bias and results cannot be statistically generalized. They are most commonly used in exploratory research.

187. (D) It is a single, one-time event, not a continuous process.
Management is a dynamic and goal-oriented process that is applicable to all types of organizations, regardless of their size or purpose. It is not a single, one-time event, but rather a continuous and ongoing cycle of planning, organizing, leading, and controlling. Through these activities, managers work with and through people to achieve specific objectives effectively and efficiently. The continuous nature of management allows organizations to adapt to changes, solve emerging problems, and maintain long-term success in environments.

188. (A) Expanding stage (with children)
The expanding stage of the family life cycle, which includes the years when children are growing up, typically sees the peak demand for resources like time and money. This period involves significant expenses for education, healthcare, and daily living needs, as well as a high requirement for personal energy and time to support the children's development. Effective management and budgeting are critical during this phase to ensure that all needs are met without overextending the family's total available resources.

189. (B) Work simplification

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An organization that analyzes its work environment, compensation, and employee growth opportunities to address a high turnover rate is engaging in Human Resource Management (HRM). HRM is the broad domain focused on the effective management of people within an organization to ensure they are motivated, productive, and satisfied in their roles. By addressing the root causes of why employees leave, HR managers can develop better retention strategies and build a more stable workforce, which is essential for success.

175. (A) Quality and safety standards
A consumer who chooses an electrical appliance with an ISI mark is primarily getting an assurance of the product's quality and safety standards. The ISI mark is a certification mark issued by the Bureau of Indian Standards (BIS) for various consumer and industrial goods. It indicates that the product has been tested and meets specific technical requirements for safety and performance. This helps protect consumers from the risks associated with substandard electrical items, such as fires or shocks.

176. (C) Challenge - Managing cash flow.
In the context of entrepreneurship, a challenge refers to a difficult task or obstacle that requires effort and skill to overcome, such as managing cash flow to keep a business financially healthy. This is an ongoing operational issue that entrepreneurs must navigate. In contrast, barriers are factors that hinder the start of a business, while motivation is the drive that moves the process forward. Correctly matching these terms is important for understanding the complexities placed on individual business owners.

177. (D) Quota Sampling
Probability sampling methods are characterized by the use of random selection to ensure that every population member has a known chance of being included. Examples include simple random, stratified, and cluster sampling. Quota sampling, however, is a non-probability technique where participants are selected based on non-random criteria to fill specific categories until a target is reached. While it helps represent subgroups, it does not provide the statistical reliability of true probability methods. Distinction is crucial for research.

178. (C) Motivating factors
Motivating factors are the various internal and external influences that energize, direct, and sustain goal-oriented behavior in individuals. These factors stimulate people to take action and maintain their effort toward achieving a desired outcome, whether in a professional or personal setting. By understanding these drivers, managers can create environments that inspire high levels of performance and engagement. Motivation is a central concept in management, as it links individual efforts to the overall goals and organizational success.

179. (B) Planning
Planning is the management function that involves determining in advance exactly what should be done to achieve organizational goals. It is the process of setting objectives, identifying the steps required to reach them, and deciding how resources should be allocated. Planning provides the roadmap for all other management functions, such as organizing and controlling. By thinking ahead and anticipating future challenges, managers can reduce uncertainty and ensure that all efforts are coordinated and focused on the most important priorities.

180. (D) Time management
A person who consistently uses tools like a to-do list and a digital or physical calendar to track deadlines and tasks is practicing effective time management. This process involves the systematic planning and allocation of time to ensure that all responsibilities are met without unnecessary stress or procrastination. By organizing their day and prioritizing high-importance activities, individuals can increase their personal productivity and ensure they have enough time for both work and personal well-being. Time management is key.

181. (A) Meeting present needs without compromising the ability of future generations to meet theirs.
The core principle of sustainable development is to meet the needs of the current population without compromising the ability of future generations to satisfy their own needs. This requires a balanced approach that integrates economic growth, social equity, and environmental protection. Rather than focusing only on short-term gains, sustainable development emphasizes the long-

comparing actual performance with the plan, and identifying any deviations that require corrective action. Controlling is essential for maintaining accountability and ensuring that organizational goals are achieved as intended. It provides the feedback loop necessary for managers to make informed decisions and keep the organization moving correctly.

197. (A) Limited or scarce
A fundamental characteristic of almost all resources is that they are generally limited or scarce in relation to the vast needs and wants of individuals and organizations. Whether the resource is time, money, energy, or natural assets like clean water, there is a finite amount available for use. This scarcity is the primary reason why management is necessary; it requires the careful planning and allocation of these limited assets to achieve specific goals. Scarcity is the first principle.

198. (C) Water harvesting
Water harvesting is the specific practice of collecting and storing rainwater from surfaces like rooftops and landscapes for later use. This technique prevents water from running off and going to waste, making it an essential tool for water conservation and management, especially in areas facing scarcity. The harvested water can be used for irrigation, industrial processes, or household needs after proper treatment. By implementing water harvesting, communities can reduce their reliance on groundwater and contribute to sustainable natural management.

199. (A) Income supplementation
Earning additional money from activities like a freelance gig or a home-based catering business alongside a regular salary is an example of income supplementation. This strategy involves diversifying one's sources of income to increase total household purchasing power and financial security. Supplementing income helps families meet unexpected expenses, save for long-term goals, or improve their overall standard of living. It reflects a proactive approach to resource management by utilizing personal skills and time to generate more household financial value.

200. (D) A key challenge is aligning development with organization goals.
A key challenge for Human Resource Development (HRD) in a modern organization is aligning the development of employees with the strategic goals and vision of the company. As the business environment changes due to technological advances and globalization, HRD must ensure that training and growth opportunities provided to the workforce directly contribute to the organization's success and adaptability. This requires a deep understanding of business needs and the ability to create targeted learning programs for high performance.

201. (B) responsibility; redressal
Keeping all bills, receipts, and warranty cards after a purchase is an important action that fulfills a consumer's responsibility to maintain proof of transaction. This practice is essential if a problem arises with the product or service, as it provides the evidence needed to seek redressal from the seller or through a consumer forum. By being organized and responsible, consumers empower themselves to effectively handle grievances and ensure they receive a fair resolution. This habit is a fundamental behavior.

202. (C) An entrepreneur
The willingness to take calculated risks is a defining characteristic of an entrepreneur. Unlike individuals who seek the security of a stable, salaried job, entrepreneurs are motivated to venture into the unknown to launch new business ideas. However, these risks are not random; they are "calculated," meaning the entrepreneur has carefully evaluated the potential rewards against the possibility of loss before proceeding. This risk-taking spirit is what drives innovation and the creation of new enterprises and economic growth.

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203. (C) Statement I is incorrect, but Statement II is correct.
While all simple random sampling is a type of probability sampling, not all probability sampling ensures an equal chance for every individual; for example, in stratified sampling, the chances can vary between groups. Simple random sampling specifically is the method where every individual in the entire population has an exactly equal and independent chance of being selected for the study. This distinction is important for researchers to understand when choosing the

performance against standards rather than just motivation. Correctly matching these functions is key to understanding how organizations operate and achieve goals successfully.

234. (C) Interchangeability
The characteristic of interchangeability refers to the ability of one resource to be used in place of another to achieve a similar goal. A common example is using a credit card as a substitute for cash during a transaction. This quality provides flexibility in resource management, allowing individuals and organizations to adapt to shortages or changing circumstances by switching to alternative assets. Understanding interchangeability is important for making wise decisions about resource allocation and satisfying needs and wants.

235. (D) Ensuring long-term environmental sustainability.
The effective management of fundamental natural resources like land, water, forest, and air is essential for ensuring long-term environmental sustainability and the survival of future generations. These resources provide the basic life-support systems of the planet and the raw materials for economic activity. Sustainable management aims to balance our current needs for development with the necessity of preserving these vital assets for the future. By preventing pollution, we can maintain the ecological balance and promote prosperity.

236. (A) Budgeting
Consistent overspending that leads to debt and financial instability can be effectively prevented through the practice of systematic family budgeting. A budget acts as a financial roadmap, helping households track their income and plan their expenses to ensure they live within their means. By setting spending limits and prioritizing needs over wants, a budget provides the discipline necessary for financial health. It also allows for the regular allocation of funds to savings, which creates security.

237. (B) Product pricing and marketing strategy
Human Resource Management (HRM) is a broad domain focused on managing the organization's workforce and includes functions such as manpower planning, training and development, and performance evaluation. These activities ensure that the company has a skilled and motivated team. However, product pricing and marketing strategy are not functions of HRM; they are the responsibility of the marketing and sales departments. While HRM supports the people who sell products, its core focus remains on human capital.

238. (B) The information gap between seller knowledge and buyer knowledge.
A fundamental problem that consumers face in the marketplace is the significant information gap between the seller's knowledge and the buyer's knowledge. Sellers often have more detailed information about the quality, safety, and true value of a product than the consumer. This information asymmetry can lead to consumers making poor choices, being misled by marketing, or purchasing substandard goods. Bridging this gap through consumer education and honest advertising is a key goal of consumer protection efforts.

239. (A) Both Statement I and Statement II are correct.
Standard marks like the Hallmark on jewelry and the ISI mark on appliances provide consumers with a critical, visible assurance of quality and purity at the time of purchase. These certifications are essential for building trust in the marketplace. Similarly, buying aids such as independent product reviews and consumer magazine reports offer unbiased information that helps individuals compare options and make better, more informed purchasing decisions. Together, these tools empower consumers to navigate the market safely.

240. (C) Barriers to entrepreneurship
Factors such as a lack of access to financial capital, the fear of personal failure, and the presence of complex or burdensome government regulations are commonly cited as major barriers to entrepreneurship. These obstacles can prevent motivated individuals from starting new businesses by increasing the perceived risk and the difficulty of the process. Identifying and addressing these barriers is essential for creating a supportive ecosystem that encourages innovation. Overcoming them requires a combination of personal resilience and strategic support.

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where participants are selected based on their easy accessibility to the researcher. Because the selection is not random, not everyone in the population has a chance of being included. As a result, the findings from a study using convenience sampling cannot be reliably generalized to the entire population with statistical confidence. While it is a quick method, it is prone to significant research bias.

212. (D) Work simplification
When a factory manager adjusts a production line to reduce the number of wasted movements for workers, they are applying the principles of work simplification. This technique focuses on improving efficiency by analyzing physical tasks and finding ways to perform them with less effort and time. By streamlining the work environment and optimizing body motions, the organization can increase its productivity while also reducing worker fatigue and the risk of injury. Work simplification is a key efficiency strategy.

213. (A) Supervision
Supervision is the specific management function that involves the direct oversight and guidance of subordinates as they carry out their daily work tasks. A supervisor's role is to ensure that work is being performed according to established standards and to provide immediate help or feedback when problems arise. This function serves as a vital link between the operational level of the organization and higher management. Effective supervision helps maintain productivity and ensures quality control and ongoing employee development.

214. (C) contracting
As a family's children grow up and leave the household for college or jobs, the family enters the contracting stage of the family life cycle. This transition often leads to significant changes in the household's resource needs, such as a decrease in the demand for large living spaces and financial resources for education. This stage, sometimes called the "empty nest," allows parents to shift their focus toward retirement planning and personal interests. Understanding these stages is essential.

215. (A) The definition of sampling
The way an individual or family uses its resources is influenced by many factors, including their personal and family goals, the cultural norms they follow, and the general availability of the resource itself. These internal and external conditions determine priorities and allocation strategies. However, the academic definition of sampling is a term used in research methodology and is not a factor that directly affects the daily management and utilization of fundamental household resources like time, energy, and money assets.

216. (D) Balance needs for timber, recreation, and preservation.
The primary goal of managing forest resources sustainably is to find a careful balance between the human need for timber and land, the importance of forest recreation, and the vital necessity of environmental preservation. Forests provide essential services like carbon storage and biodiversity habitats that must be protected. Sustainable management ensures that we use forest products today without depleting them for future generations. This balanced approach supports both economic needs and ecological health for long-term resilience.

217. (B) Budgeting is only for people with low incomes.
A common misconception is that budgeting is only for people with low incomes or those struggling financially. In reality, a family budget is a valuable financial tool for everyone, regardless of their income level. It helps individuals track where their money is going, ensures they live within their means, and provides a clear plan for achieving both short-term and long-term financial goals. By being flexible and realistic, a budget empowers any household to manage more effectively.

218. (C) Training need assessment
Conducting a survey to identify specific leadership skill gaps among employees before launching a new program is a classic example of a training need assessment. This process ensures that the proposed training is relevant and will address real performance problems within the organization. By identifying exactly what knowledge or skills are missing, the HR manager can design a more effective and targeted learning experience. This assessment stage is crucial for

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fatigue, which is the state of diminished capacity for work caused by prolonged or heavy exertion.

265. (A) Inexhaustibility
Resources are defined by several intrinsic properties that determine how they are managed and utilized by individuals. These characteristics include their practical utility for satisfying needs, their level of accessibility for the user, and their potential for interchangeability. However, resources are fundamentally finite and subject to depletion through use, meaning they lack the quality of being inexhaustible and require conservation.

266. (B) meeting present needs without compromising the needs of the future.
Sustainable development is a philosophical and practical framework centered on responsible resource stewardship. It emphasizes that current societal requirements must be satisfied in a way that does not deplete assets or damage the environment for subsequent generations. This principle of inter-generational equity ensures that the ability of future populations to meet their own needs remains intact and protected.

267. (B) collecting and storing rainwater for conservation and reuse.
Water harvesting is a proactive conservation technique that focuses on capturing rainwater before it is lost as surface runoff. By collecting and storing this natural resource, individuals and communities can ensure a reliable supply for various future uses. This practice is particularly vital in regions where water is scarce, as it supports long-term sustainability and resource availability.

268. (A) The SDGs are a framework designed to operationalize the concept of sustainable development.
The Sustainable Development Goals represent a universal call to action that provides a practical structure for achieving global sustainability. While sustainable development is the underlying philosophy, the SDGs serve as the specific measurable targets and strategies used to implement this vision. They work together to address environmental, social, and economic challenges through a coordinated and globally recognized framework.

269. (C) Municipal solid waste
The management of materials discarded by urban populations is a critical concern for both environmental integrity and human well-being. Effective systems for the collection, treatment, and disposal of such waste prevent the spread of diseases and reduce pollution. Because of its direct impact on community hygiene and ecological health, this area is a fundamental component of resource management.

270. (D) it is linked to principles of equity between generations and global well-being.
Responsible natural resource management is viewed as a developmental imperative because it transcends simple environmentalism. It is deeply rooted in the concept of fairness, ensuring that the benefits of natural assets are shared across current and future populations. By protecting these resources, societies promote global peace, prosperity, and long-term stability, as outlined in international sustainability frameworks.

271. (C) To record actual income and expenditure for tracking and comparison.
Maintaining household accounts involves the diligent documentation of all financial inflows and outflows. This record-keeping serves as a factual database that allows families to track exactly how their money is being spent over time. By comparing these actual figures against the planned budget, individuals can identify discrepancies, evaluate their financial habits, and make necessary adjustments to their spending.

272. (B) the act of committing money to an asset to generate future returns.
Investment is a proactive financial strategy that differs from simple saving by focusing on the growth of wealth. It involves placing capital into specific assets, such as property or stocks, with the clear expectation of earning income or seeing the asset's value increase. While savings represent unspent income, investment specifically targets the generation of future financial appreciation and security.

273. (D) Household accounts provide the data to monitor and adjust the plan created by the budget.
Budgeting and household accounting are complementary tools in financial management.

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use. This practice is essential for building a financial safety net to handle emergencies and for accumulating the funds needed to achieve long-term financial goals, such as buying a home or funding retirement. Effective saving is the first step toward financial security. By managing current expenditures, households can ensure they are consistently setting aside money.

227. (B) Training evaluation is the first step in the training process.
In the training process within Human Resource Management, training evaluation is the final step, not the first. The process typically begins with a training need assessment to identify skill gaps, followed by the design and implementation of the program using various methodologies. Only after the training is completed is evaluation performed to measure its effectiveness and impact on employee performance. Correctly following this sequence ensures that training activities are targeted, relevant, and provide a measurable return.

228. (D) Consumer empowerment
Consumer empowerment is the ability of individuals to make independent and informed decisions in the marketplace and to have their interests protected against unfair practices. This is achieved through education about consumer rights and responsibilities, as well as the existence of clear laws and redressal mechanisms. An empowered consumer is one who is vigilant, critical of marketing claims, and capable of seeking justice when treated unfairly. Empowerment balances the relationship between buyers and sellers, leading to a fair economy.

229. (A) The Right to Redressal
The existence of specialized consumer courts and dispute redressal forums is a direct and practical manifestation of the consumer's 'Right to Redressal'. This right ensures that individuals have a legal pathway to seek compensation or a solution for defective goods, poor services, or other unfair trade practices. By providing an accessible and relatively fast way to resolve grievances, these forums empower consumers and hold businesses accountable for the quality and safety of their products in the marketplace.

230. (C) Statement I is incorrect, but Statement II is correct.
The entrepreneurial process does not typically start with managing a large, already existing enterprise; that is the role of an established manager or executive. Instead, the process often begins with the identification of a unique business opportunity or an unmet market need by an individual. From this initial idea, the entrepreneur proceeds to plan, secure funding, and launch a new venture. While management is required later to grow the business, birth is driven by identification.

231. (A) Stratified Sampling
When a population is diverse and contains distinct subgroups based on characteristics like income or age, stratified sampling is the most effective probability method to ensure each group is accurately represented. This involves dividing the population into these subgroups, or strata, and then taking a random sample from each. This technique prevents smaller groups from being missed and allows the researcher to make reliable comparisons between different segments. It ensures that the final sample reflects true population diversity.

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232. (D) Both personal well-being and professional effectiveness
The effective management of personal resources like time and energy is crucial for both personal well-being and professional effectiveness. On a personal level, it helps individuals maintain health, reduce stress, and achieve a better work-life balance. Professionally, it allows them to be more productive, meet deadlines, and achieve their career goals. Since people are the primary users of all other resources, the way they manage themselves directly impacts the success of organizations and society as a whole.

233. (B) Organizing - Creating a structure of roles and tasks.
Organizing is the management function responsible for creating a formal structure of roles and tasks to carry out an organization's plans. It involves the systematic arrangement of human and material resources to ensure that work is coordinated and objectives are met efficiently. In contrast, planning is forward-looking rather than backward, and controlling focuses on monitoring

most appropriate random selection method for their research.

204. (A) Organizing
Organizing is the management function specifically concerned with structuring roles, responsibilities, and tasks among an organization's members to effectively carry out the established plans. It involves creating a formal structure that defines how activities are divided and coordinated to achieve common goals. By arranging human and material resources in a logical way, organizing ensures that everyone knows their duties and who they report to, which minimizes confusion and increases efficiency. It provides the stable structural framework.

205. (B) Energy
A person choosing to walk up a flight of stairs instead of taking an elevator to save electricity is an example of personal energy management. While it involves an expenditure of physical effort, it conserves a non-human energy resource (electricity) and contributes to environmental sustainability. Additionally, such choices can reflect the person's values regarding health and resource conservation. Management is not just about big organizational decisions; it includes these daily individual choices that affect the preservation of natural resources.

206. (B) They apply only to developing countries.
The Sustainable Development Goals (SDGs) are a set of 17 global goals designed as a blueprint for a better and more sustainable future for all people and the planet. A common misconception is that they apply only to developing countries; in reality, the SDGs are a universal call to action for all nations, whether developed or developing, to work together to address issues like poverty, climate change, and inequality. Every country has a responsibility to achieve targets.

207. (A) Savings involves setting aside money, while investment involves using money to potentially earn more.
The primary difference between savings and investment is how the money is utilized. Savings involves setting aside a portion of current income for future use, often in safe and liquid accounts like a basic bank deposit, to provide a safety net or meet short-term goals. Investment, however, involves using that saved money to purchase assets with the expectation of generating a higher return or capital growth over the long term. While savings focuses on preservation, investment focuses on building wealth.

208. (C) Training methodologies
Training methodologies refer to the specific techniques and approaches used to deliver educational content and impart skills to employees within an organization. Common examples include formal lectures, hands-on case studies, interactive simulations, and direct on-the-job guidance. The selection of a particular methodology depends on factors like the training goals, the type of audience, and the complexity of the subject matter. By using the right combination of methodologies, HR managers can ensure that training is engaging and leads to performance.

209. (D) Consumer legislation
Laws like the Consumer Protection Act provide the essential legal framework known as consumer legislation. This legislation codifies the specific rights of consumers, such as the right to safety and the right to be informed, and establishes formal mechanisms like consumer courts for resolving disputes and seeking redressal. By creating clear legal standards for business behavior and providing a path for justice when those standards are not met, consumer legislation empowers individuals and ensures a more fair marketplace.

210. (C) Project Appraisal - Assessing the viability of a business idea.
Project appraisal is the specific and critical process of assessing the overall viability and feasibility of a new business idea before it is launched. It involves analyzing various factors like potential market demand, required technical resources, and financial projections to determine if the project is likely to succeed. In contrast, enterprise setting is the initial establishment of the business, and enterprise management involves the ongoing daily operations. Correctly linking these terms is essential for understanding different entrepreneurial stages.

211. (B) Both Statement I and Statement II are incorrect.
Convenience sampling is not a type of probability sampling; rather, it is a non-probability technique

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241. (D) Non-probability sampling involves random selection.
The statement that non-probability sampling involves random selection is incorrect; in reality, non-probability methods like convenience or purposive sampling use non-random criteria based on the researcher's judgment or ease of access. Only probability sampling methods utilize random selection to ensure that every member of the population has a known chance of being included. This randomization is what allows researchers to make statistical inferences and generalize their findings with confidence. Understanding this fundamental distinction is crucial for researchers.

242. (C) Decision making
When a manager evaluates several potential new product lines and selects one to launch, they are engaged in the core activity of decision-making. This process involves identifying a goal, gathering relevant information about each alternative, and choosing the most suitable option to achieve the desired result for the organization. Decision-making is a central part of all management functions and requires the ability to analyze risks. Effective choices at this stage are critical for the organization's growth and success.

243. (B) Evaluation
Evaluation is the final function in the management process, serving to check whether the planned goals and objectives have been successfully achieved. It involves a systematic review of the outcomes of various activities to measure their effectiveness and efficiency. This summative assessment provides the data necessary to understand the strengths and weaknesses of the management cycle and to identify areas for future improvement. By closing the loop on a project, evaluation ensures accountability and provides lessons learned.

244. (D) Conserve personal resources like time and energy.
The primary goal of practicing work simplification is to perform tasks and chores with the minimum possible expenditure of personal resources like time and energy. By analyzing how tasks are done and identifying ways to streamline motions, improve the workspace layout, and use better tools, individuals can complete their work more efficiently. This conservation of effort helps prevent physical and mental fatigue, allowing people to accomplish more and maintain a higher quality of life.

245. (A) SDGs - A set of global goals for sustainability.
The Sustainable Development Goals (SDGs) are a comprehensive set of 17 global goals adopted by the United Nations to address the world's most pressing sustainability challenges by 2030. They provide a shared blueprint for protecting the planet and ensuring prosperity for all people. In contrast, sustainable development is a concept that prioritizes meeting both current and future needs equally, rather than focusing only on the present. Correctly matching these terms is essential for understanding the international framework.

246. (C) All of the above
Dividends received from stock investments are financial inflows that become part of a family's total income. This income should be recorded in household accounts and accounted for when monitoring the family budget. Since it represents a return on capital, it can be used for consumption or reinvested to grow wealth. Properly managing all sources of income, including investment returns, is essential for maintaining accurate records and achieving long-term economic security. This financial discipline helps households reach savings goals.

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247. (A) A non-probability method like Quota or Purposive Sampling to represent subgroups.
When a researcher studies a specific group like elderly residents but lacks a registry for random selection, a non-probability method like quota or purposive sampling is the most appropriate approach. These techniques allow for the deliberate selection of participants to ensure that different subgroups within the demographic are represented. While this does not allow for perfect statistical generalization, it provides a practical way to gain valuable insights from the desired group. This targeted strategy is essential.

248. (B) Purposive sampling
Purposive sampling is a non-probability technique where the researcher selects participants because they possess unique knowledge or characteristics relevant to the study's focus. This method is

often used to gather detailed information from key informants who provide deep understanding of complex topics. Unlike random methods, purposive sampling is based on researcher judgment. It is particularly common in qualitative research for exploring specific perspectives where a representative sample of the general population is not required for the study.

249. (B) The use of resources to achieve specific goals.
The most fundamental aspect of management is the coordinated use of resources like people, time, and money to achieve specific, predetermined goals. Management is a purposeful activity involving planning, organizing, leading, and controlling to ensure these resources are utilized efficiently. Whether in a large corporation or a small household, the focus remains on transforming individual efforts into collective success. This goal-oriented nature is what defines management and distinguishes it from mere uncoordinated accumulation of various organizational assets.

250. (A) Planning, as control measures performance against plans.
The controlling function of management is closely linked to planning because control measures actual performance against the goals and standards established during the planning stage. Without a plan, there is no benchmark to determine if the organization is on the right track. These functions create a feedback loop: planning provides the direction, while controlling ensures accountability and provides data to refine future plans for achieving long-term organizational success and sustainability. This integrated approach ensures goals.

251. (B) Motivation is a psychological driver that influences the efficiency of resource use.
Within the management framework, motivation serves as a fundamental psychological catalyst that propels individuals toward the effective utilization of limited resources. It acts as an internal or external force that determines how purposefully assets like time and money are applied to reach specific goals. Consequently, the efficiency of resource application is deeply connected to these motivational factors.

252. (A) is the process through which resource allocation choices are made.
Decision-making is considered a core cognitive function because it involves the critical selection of a specific course of action from various available alternatives. This process is essential for determining how to distribute limited assets efficiently. Whether in daily tasks or strategic planning, the quality of these choices directly influences the success of resource allocation and goal achievement.

253. (C) Management is an integrated process combining procedural actions with psychological understanding.
Management is a comprehensive and multifaceted discipline that merges procedural tasks with a deep understanding of human psychology. It involves the judicious handling of physical resources while simultaneously addressing the internal drivers that motivate individuals. This integration ensures that technical resource allocation and cognitive decision-making work together to achieve personal or familial objectives in various contexts and settings.

254. (D) the core activity within the management process.
The judicious handling of specific assets, such as time, energy, money, and space, represents the central focus of the management process. These resources are often limited, necessitating careful coordination to meet personal and familial needs. Effective oversight of these elements is not a secondary concern but the primary means through which individuals successfully navigate their environment and goals.

255. (C) the identification and selection of a course of action from alternatives.
Decision-making is a vital cognitive activity centered on identifying problems and gathering information to evaluate various solutions. It requires choosing a specific path forward from a range of available options to address a particular situation. This function is integrated into all managerial levels, ensuring that resource use is based on rational selection rather than arbitrary or random choices.

256. (B) Controlling

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The management function involving the monitoring of progress against an established plan is fundamental for maintaining oversight. This specific process functions as a vital feedback loop that allows individuals to identify any deviations from the original objectives. By evaluating current performance against the intended course, necessary adjustments can be implemented to ensure that final goals are successfully met.

257. (D) The application of management functions dynamically adapts to the needs of each stage.
Management practices within a family setting are not rigid but instead shift in response to the changing requirements of different life stages. As a family progresses from formation to later phases, the priorities for planning, organizing, and resource allocation must evolve. This flexibility ensures that managerial functions remain relevant and effective despite shifting demands and varying resource availability.

258. (A) Evaluation provides insights that inform and improve future planning.
Evaluation serves as the final step in the managerial cycle, where outcomes are assessed against initial objectives. The results of this assessment are not isolated; they provide critical data and lessons that shape subsequent strategies. By understanding the effectiveness of past actions, individuals can create more accurate and efficient plans for the future, fostering a continuous improvement loop.

259. (C) arranging resources and delegating tasks systematically.
The organizing function focuses on the systematic arrangement of available assets and the structured distribution of responsibilities. It follows the planning phase and creates a functional framework for implementation. By delegating tasks and coordinating resources, this function ensures that every component of the management process is properly positioned to contribute effectively to the achievement of the established goals.

260. (A) Controlling
When a family must modify its spending patterns during a specific period due to unforeseen costs, they are actively monitoring their financial progress. This action serves as a corrective mechanism to align actual expenditures with the predefined budget. Such real-time adjustments are essential for maintaining financial discipline and ensuring that resources are diverted effectively to address immediate needs.

261. (D) accomplish tasks with minimal use of time and energy.
Work simplification is a specialized strategy aimed at increasing productivity by streamlining physical and mental tasks. The primary goal is to complete required activities while consuming the least possible amount of time and effort. By applying these techniques, individuals can perform their duties more efficiently, thereby preserving personal resources and reducing the overall physical burden of daily work.

262. (B) Work simplification
The concept of classes of change is a structural framework used to categorize different methods for improving task efficiency. These categories include modifications to body motions, equipment arrangements, and the final output of a task. Implementing these specific changes is the practical application of work simplification, allowing for the completion of work with significantly reduced physiological and temporal demands.

263. (C) Resource use is shaped by a combination of personal values, culture, and knowledge.
The utilization of resources is not an arbitrary process but is deeply influenced by several external and internal factors. Cultural norms dictate acceptable behaviors, while personal values prioritize specific outcomes. Additionally, the level of knowledge an individual possesses determines how effectively they can apply assets. Together, these elements create a unique context for every resource management decision made.

264. (D) effective work simplification can help reduce fatigue.
There is a direct relationship between the methods used to perform tasks and the resulting physical exhaustion. By streamlining motions and improving work arrangements through simplification techniques, the total expenditure of effort is lowered. This reduction in strain directly helps in managing and minimizing

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ensuring that organizational financial resources are invested properly.

219. (D) Standard mark
The 'FPO' mark found on processed fruit products like jams, juices, and squashes in India is a mandatory standard mark. It signifies that the product has been manufactured in a hygienic environment and meets specific quality and safety standards set by the government. This mark provides consumers with an assurance that the food they are buying is safe for consumption and has been processed according to established rules. Identifying products with standard marks is a key responsibility.

220. (A) Both Statement I and Statement II are correct.
Starting a new business involves significant challenges, and factors like the fear of personal failure and a lack of initial capital are well-known barriers to entrepreneurship that can discourage potential founders. However, individuals with high levels of entrepreneurial motivation—driven by a need for achievement and independence—are often better able to persevere through these obstacles. While these barriers are real and difficult, the internal drive and resilience of an entrepreneur are key success factors.

221. (B) Purposive sampling
Purposive sampling is a non-probability technique where the researcher selects participants because they possess unique knowledge or characteristics relevant to the study's focus. This method is often used to gather detailed information from key informants who provide deep understanding of complex topics. Unlike random methods, purposive sampling is based on researcher judgment. It is particularly common in qualitative research for exploring specific perspectives where a representative sample of the general population is not required for the study.

222. (B) The use of resources to achieve specific goals.
The most fundamental aspect of management is the coordinated use of resources like people, time, and money to achieve specific, predetermined goals. Management is a purposeful activity involving planning, organizing, leading, and controlling to ensure these resources are utilized efficiently. Whether in a large corporation or a small household, the focus remains on transforming individual efforts into collective success. This goal-oriented nature is what defines management and distinguishes it from mere uncoordinated accumulation of assets.

223. (A) Planning, as control measures performance against plans.
The controlling function of management is closely linked to planning because control measures actual performance against the goals and standards established during the planning stage. Without a plan, there is no benchmark to determine if the organization is on the right track. These functions create a feedback loop: planning provides the direction, while controlling ensures accountability and provides data to refine future plans for achieving long-term organizational success and sustainability. This ensures goals are met.

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224. (C) Adequate rest and nutrition
Physiological fatigue is the body's natural response to physical or mental exhaustion and signifies a depletion of personal energy resources. To effectively combat this type of fatigue, a worker must prioritize adequate rest, quality sleep, and proper nutrition to allow the body and mind to recover. Ignoring these signs and working longer hours can lead to serious health issues and a decline in productivity and safety. Implementing work simplification and regular breaks are also key strategies for management.

225. (D) Municipal solid waste management
When urbanization occurs rapidly and without the proper planning for waste disposal infrastructure, it inevitably leads to a significant crisis in municipal solid waste management. The sudden increase in population and economic activity generates vast amounts of garbage that the city's existing collection and treatment systems cannot handle. This situation can lead to environmental pollution, serious public health risks, and a decline in the quality of urban life. Addressing this challenge requires strategic investment in sustainable methods.

226. (C) Savings
Savings is the portion of a family's or individual's total income that is not spent on current consumption but is instead set aside for future

A budget establishes a forward-looking plan for income allocation, while accounts provide a retrospective record of actual spending. The data from these accounts is essential for monitoring whether the family is adhering to its budget. This comparison allows for informed decision-making and the adjustment of future financial plans.

274. (A) provides a disciplined plan for allocating income.
Budgeting is considered the foundation of sound money management because it creates a structured and forward-looking approach to spending. It requires individuals to prioritize their needs and allocate expected income to specific categories like savings and debt repayment. This process instills financial discipline, helping to prevent overspending and ensuring that financial resources are used to achieve long-term economic goals.

275. (C) the potential tax implications.
When making decisions regarding savings and investments, it is vital to analyze the impact of taxation on financial outcomes. Taxes can significantly reduce the actual net returns received from an investment or the total amount of disposable income available to a family. Therefore, understanding and accounting for these legal obligations is a critical step in maximizing overall economic security.

276. (A) To identify specific skill and knowledge gaps among employees.
A training need assessment is a systematic diagnostic process conducted within human resource management. Its primary purpose is to determine exactly what competencies or information employees currently lack in relation to their job requirements. By pinpointing these specific gaps, organizations can design targeted educational interventions that directly address the most pressing areas for professional improvement and operational efficiency.

277. (D) forecasting future personnel needs and planning for their fulfillment.
Manpower planning, or human resource planning, is a strategic function focused on predicting the future staffing requirements of an organization. It involves analyzing upcoming goals to determine the number and types of employees needed. Furthermore, it evaluates how the current workforce can be developed or supplemented to meet those needs, ensuring the organization always has the necessary talent.

278. (B) Training need assessment → Training methodologies → Training evaluation
A strategic approach to employee development follows a specific logical progression to ensure organizational impact. This cycle begins with identifying specific knowledge gaps through a formal assessment. Once these deficiencies are pinpointed, suitable instructional techniques are chosen for delivery. The final phase involves measuring the results of these interventions to determine if performance improvements and organizational goals were achieved.

279. (C) recognition of the workforce as a significant organizational asset.
The fundamental rationale for implementing human resource management is the understanding that employees are the most valuable asset an organization possesses. Unlike physical resources, human capital provides creativity, adaptability, and strategic value. Recognizing this importance necessitates a dedicated approach to attracting, developing, and retaining people to ensure that the organization remains competitive and achieves its long-term objectives.

280. (D) the growth and development of the existing workforce.
Human resource development is a specialized subset of management that prioritizes the continuous improvement of employees' skills and abilities. Rather than focusing solely on recruitment or administration, it emphasizes activities like training, coaching, and career planning. The goal is to enhance the existing workforce's capacity to contribute to the organization while also supporting the personal and professional advancement of individuals.

281. (A) to achieve consumer empowerment.
Consumer education is designed to provide individuals with the essential knowledge and critical thinking skills required to navigate the modern marketplace. The ultimate objective is to transform passive buyers into empowered participants who can confidently assert their

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51. Which principle of design is achieved when all parts of a design work together to create a feeling of completeness and harmony?
(A) Emphasis
(B) Balance
(C) Unity
(D) Rhythm

52. Read the following statements and select the correct option.
Statement I : The perceived colour of a surface can be affected by the type of light source illuminating it.
Statement II : The texture of a surface does not influence how colour is perceived.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

53. Consider the following income group classifications for housing.
1. HIG (High Income Group)
2. LIG (Low Income Group)
3. MIG (Middle Income Group)
4. EWS (Economically Weaker Section)

Which of the following represents the correct ascending order of income level?
(A) 4, 2, 3, 1
(B) 2, 4, 3, 1
(C) 1, 3, 2, 4
(D) 4, 3, 2, 1

54. The provision of loans and financial assistance for purchasing or constructing a house is broadly termed as:
(A) Zoning
(B) Housing finance
(C) Energy auditing
(D) Building norms

55. A 'green rating system' for a building primarily evaluates its:
(A) Market value and resale potential
(B) Adherence to historical architectural styles
(C) Interior decoration and furniture selection
(D) Environmental performance and sustainability

56. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : National efforts on energy conservation are critical for a country's sustainable development.
Reason (R) : Conserving energy reduces the need for new power plants, decreases pollution, and saves financial resources.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

57. The 'ideate' stage in the design thinking process is primarily focused on:
(A) Understanding the user's problems.
(B) Building a preliminary version of the product.
(C) Generating a wide range of creative ideas and solutions.
(D) Testing the final product with users.

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58. The study of the physiological cost of work involves measuring all of the following EXCEPT:
(A) The worker's salary and benefits
(B) Heart rate changes during a task
(C) Oxygen consumption
(D) Caloric expenditure

59. Match the items in List I with those in List II.
List I: (Window Treatment)
P. Blinds
Q. Curtains
R. Draperies
S. Shades
List II: (Description)
1. Heavy, often lined, fabric panels.
2. Unlined, lighter fabric panels.
3. A single piece of material that rolls or folds up.
4. Slats of wood, metal, or plastic that tilt or lift.

(A) P-1, Q-3, R-2, S-4
(B) P-2, Q-4, R-3, S-1
(C) P-4, Q-2, R-1, S-3
(D) P-3, Q-1, R-4, S-2

buyers, identify illegal trade practices, and establish the administrative machinery, such as consumer courts, necessary for enforcement. Without this robust legal structure, individual rights would be difficult to assert, and there would be no formal mechanism to address exploitation.

291. (C) To evaluate the viability and feasibility of a business plan.
Project appraisal is a critical evaluation stage in the entrepreneurial process that occurs after the initial plan is developed. Its purpose is to conduct a thorough analysis of the project's technical, financial, and market aspects to determine if the idea is worth pursuing. This assessment helps entrepreneurs decide whether a business concept is practical and likely to succeed.

292. (A) the driving force that compels an individual to pursue entrepreneurial goals.
Entrepreneurial motivation is the psychological engine that pushes an individual to start and sustain a new venture despite inherent risks. It can be triggered by a desire for independence, a need for achievement, or the recognition of a specific market gap. This internal drive is essential for overcoming the various barriers and challenges encountered throughout the entrepreneurial journey.

293. (D) Planning involves developing a business blueprint, which is then evaluated through appraisal.
The relationship between project planning and appraisal is sequential and complementary. Planning involves the creation of a detailed blueprint that outlines the business's goals, strategies, and resource requirements. Appraisal then serves as the critical review process for that blueprint, testing its assumptions and viability. Together, these steps ensure that a business is built on a solid and realistic foundation.

294. (B) the day-to-day running of the business to ensure efficiency and growth.
Enterprise management is the ongoing phase of the entrepreneurial journey that begins once a business is launched. It focuses on the application of management principles to coordinate daily operations, manage finances, and lead staff. The ultimate goal of this function is to ensure that the business operates efficiently, remains financially stable, and achieves sustainable growth in a competitive market.

295. (C) a dynamic sequence involving planning, overcoming challenges, and management.
Entrepreneurship is best characterized as a continuous and evolving process rather than a single event. it starts with an idea and progresses through formal planning and rigorous feasibility testing. Throughout this journey, the entrepreneur must navigate various barriers and adapt to changing circumstances. Finally, the process culminates in the professional management of the enterprise to ensure its long-term viability.

296. (D) Every unit in the population has a known, non-zero chance of being selected.
Probability sampling is defined by its adherence to mathematical principles of randomness and selection. In this method, the probability of any individual member of the target population being included in the sample is determined and remains above zero. This characteristic is essential because it allows researchers to use statistical theory to make valid generalizations about the entire population.

297. (A) non-probability sampling.
Techniques such as convenience and purposive sampling fall under the category of non-probability sampling because they do not rely on random selection. Instead, the inclusion of participants is often based on ease of access, availability, or the specific subjective judgment of the researcher. While useful in certain contexts, these methods do not provide every population member an equal chance of selection.

298. (B) allows for the making of statistical inferences about the population.
The primary strength of probability sampling lies in its ability to support statistical inference. Because participants are selected using random methods, the sample is more likely to be representative of the larger group. This allows researchers to calculate margins of error and confidently apply their findings from the small sample to the entire population, enhancing the study's validity.

299. (B) Defining the target population.

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rights and make rational choices. This state of empowerment allows consumers to overcome common problems and actively enhance their personal well-being.

282. (B) The duty to be aware and think critically before purchasing.
In the marketplace, consumers hold specific responsibilities that complement their legal rights. One of the most important duties is the obligation to be well-informed and to exercise critical judgment during the purchasing process. By being aware of product details and thinking analytically about choices, consumers protect themselves from misinformation and contribute to a more ethical and efficient market environment.

283. (B) the decision-making processes related to purchasing acts.
The study of consumer behavior explores the psychological and social factors that influence how individuals and groups make choices in the marketplace. It focuses on the internal and external processes that occur before, during, and after a purchase. Understanding these decision-making patterns helps in identifying how needs are satisfied and how consumers react to various products and services.

284. (A) It results from being educated and capable of asserting one's rights.
Consumer empowerment is not a default status but is earned through the combination of education and active engagement. It occurs when a person possesses both the knowledge of their legal rights and the confidence to use that information to resolve problems. Consequently, an empowered consumer is one who can effectively navigate market challenges and advocate for their interests.

285. (C) purchases and uses goods and services to satisfy needs.
At its most fundamental level, a consumer is defined by the act of acquiring and utilizing products or services available in the economy. This role is central to the functioning of the marketplace, as consumers drive demand based on their specific needs and wants. Beyond just buying, the definition encompasses the final use of these items to achieve personal satisfaction.

286. (D) To certify that a product conforms to prescribed quality standards.
A standard mark is an official symbol or label that acts as a guarantee of quality and safety for the consumer. It signifies that the product has undergone testing and meets specific criteria established by recognized standardization bodies. By looking for these marks, buyers can make informed decisions, trusting that the items they purchase adhere to established industry benchmarks.

287. (C) offer a potentially faster and more accessible way to resolve disputes.
Alternative redressal mechanisms provide consumers with options for resolving grievances outside of the formal and often slow-moving court system. These methods are designed to be more user-friendly, less expensive, and quicker in reaching a settlement. Their presence ensures that consumers have a practical way to seek justice for substandard products or unfair practices without navigating complex legal hurdles.

288. (B) Consumer organizations and cooperatives.
Consumer organizations and cooperatives serve as vital collective entities that represent the interests of individual buyers. They provide a unified voice to advocate for stronger consumer rights and protection laws. By working together, these groups can exert more influence on manufacturers and policymakers than an individual could alone, while also providing direct assistance and education to their members.

289. (D) assist consumers in evaluating products before purchase.
Buying aids encompass a variety of tools and information sources, such as product reviews, comparative testing reports, and informative labels. Their primary function is to provide objective data that helps consumers compare different options in the marketplace. By using these aids, individuals can assess the quality, performance, and value of products before committing to a purchase decision.

290. (A) It provides the fundamental legal basis for consumer rights and redressal.
Consumer legislation serves as the foundational framework for the entire consumer protection system. These laws define the legal rights of

CHAPTER 06
Housing and Interior Design

1. Which of the following is considered a fundamental element of art?
(A) Rhythm
(B) Line
(C) Balance
(D) Harmony

2. Read the following statements and select the correct option.
Statement I : The principles of design are guidelines used to arrange the elements of art.
Statement II : The principles of composition are synonymous with the elements of art.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

3. What term describes the lightness or darkness of a colour?
(A) Hue
(B) Intensity
(C) Value
(D) Scheme

4. Which of the following is an example of a principle of planning spaces in housing?
(A) Zoning
(B) Anthropometry
(C) Energy auditing
(D) Circulation

5. Which of the following is NOT a building regulation concept?
(A) Zoning
(B) Housing finance
(C) Vernacular architecture
(D) Industry-standard norms and regulations

6. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Building materials have a significant impact on the environment.
Reason (R) : Materials require energy for extraction and processing, and may contribute to pollution.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

7. Which of the following is an example of a non-conventional source of energy?
(A) Coal
(B) Petroleum
(C) Natural gas
(D) Solar power

8. A product designer is trying to understand the user's needs and challenges before creating a new chair. Which stage of the 'design thinking process' is this?
(A) Empathize
(B) Prototype development
(C) Ideate solutions
(D) Test iterations

9. Consider the following statements about Ergonomics.
1. It deals with the man, machine, environment relationship.
2. Its scope excludes the physiological cost of work.
3. It involves the study of anthropometry.
4. Body mechanics is a key component of ergonomics.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 4

10. What does the term 'anthropometry' primarily refer to in the context of ergonomics?
(A) The measurement of the human body.

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(B) The study of time and motion in tasks.
(C) The psychological impact of the work environment.
(D) The financial cost of workplace injuries.

11. Which term describes a wall finish that involves applying sheets of printed or patterned paper to interior walls?
(A) Paneling
(B) Stucco
(C) Drapery
(D) Wallpaper

12. Which research tool for data collection involves the researcher systematically watching and recording behaviours or events?
(A) Questionnaire
(B) Observation
(C) Interview
(D) Measuring scale

13. The principle of design that refers to the visual weight of objects, colours, texture, and space is known as:
(A) Rhythm
(B) Emphasis
(C) Balance
(D) Proportion

14. Identify the incorrect statement regarding colour schemes.
(A) A monochromatic scheme uses variations of a single hue.
(B) An analogous scheme uses colours that are adjacent on the colour wheel.
(C) A complementary scheme uses colours that are opposite each other on the colour wheel.
(D) A triadic scheme uses only two colours that are widely separated on the colour wheel.

15. Match the items in List I with those in List II.
List I: (Principles of Planning)
P. Aspect
Q. Prospect
R. Circulation
S. Grouping
List II: (Description)
1. Placement of rooms in relation to each other.
2. The external view from a window.
3. The movement path between rooms and spaces.
4. The orientation of a room for light and air.
(A) P-4, Q-2, R-3, S-1
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

16. Which of the following best describes the purpose of 'zoning' in building regulations?
(A) To provide financial aid for home construction.
(B) To divide land into areas for specific uses like residential or commercial.
(C) To dictate the architectural style of a neighborhood.
(D) To set minimum standards for building material quality.

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17. What is the primary purpose of an 'energy audit' in buildings?
(A) To install renewable energy sources.
(B) To assess and identify opportunities for energy savings.
(C) To calculate the green rating of a building.
(D) To measure the psychological comfort of occupants.

18. Consider the following stages of the 'design thinking process'.
1. Prototype
2. Empathize
3. Test
4. Ideate
5. Define
Which of the following represents the correct chronological order?
(A) 2, 5, 4, 1, 3
(B) 1, 2, 3, 4, 5
(C) 2, 4, 5, 1, 3
(D) 5, 2, 1, 4, 3

19. In ergonomics, the relationship between 'man, machine, and environment' is crucial. Which of the following is the best example of designing for this relationship?
(A) Choosing a popular colour for a new car model.
(B) Using the most expensive materials for a product.
(C) Designing a factory workstation with adjustable chair height and good lighting.

(D) Implementing targeted marketing campaigns based on detailed demographic analytics.

20. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Contemporary trends in furniture often emphasize minimalism and multi-functionality.
Reason (R) : Modern lifestyles in smaller urban homes create a demand for space-saving and versatile furnishing solutions.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

21. A researcher wants to ensure that their questionnaire yields consistent results when administered multiple times to the same group. This concern relates to the tool's:
(A) Validity
(B) Objectivity
(C) Reliability
(D) Ranking

22. A colour that appears to advance or make a space feel smaller is typically described as a:
(A) Cool colour
(B) Warm colour
(C) Neutral colour
(D) Receding colour

23. Which of the following is NOT a principle of design?
(A) Proportion
(B) Unity
(C) Emphasis
(D) Texture

24. Consider the following statements about housing finance.
1. It refers to the money borrowed for the purpose of housing construction or purchase.
2. It is exclusively provided by government agencies.
3. It is often considered a key component of housing development.
4. It is not relevant for planning housing for different income groups.

Which of the above statement(s) is/are correct?
(A) 1 and 3
(B) 2 and 4
(C) 1 and 2
(D) 3 and 4

25. The impact of building materials on the environment is a key concern. Which concept refers to the total energy consumed during a material's entire life cycle?
(A) Energy audit
(B) Indoor comfort index
(C) Embodied energy
(D) Green rating

26. Which type of energy is classified as both a conventional and non-renewable source?
(A) Coal
(B) Solar
(C) Wind
(D) Biomass

27. The spread and adoption of a new product design throughout a social system is known as:
(A) Design communication
(B) Design thinking
(C) Ergonomic consideration
(D) Diffusion and innovation

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28. Read the following statements and select the correct option.
Statement I : Body mechanics in ergonomics focuses on efficient and safe body movement to prevent strain.
Statement II : Time and motion study aims to simplify work by analyzing and timing the movements required for a task.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

29. Which of the following window treatments consists of fabric panels that are drawn to the side?
(A) Blinds
(B) Shades
(C) Drapes

(D) Shutters

30. If a research tool accurately measures the concept it is intended to measure, it is said to have high:
(A) Reliability
(B) Scalability
(C) Rankability
(D) Validity

31. Match the items in List I with those in List II.
List I: (Element of Art)
P. Form
Q. Texture
R. Space
S. Value
List II: (Description)
1. The area around, between, and within objects.
2. The lightness or darkness of tones or colours.
3. A three-dimensional object with volume and thickness.
4. The surface quality that can be seen or felt.
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-1, S-2
(C) P-2, Q-1, R-4, S-3
(D) P-4, Q-3, R-2, S-1

32. The psychological effect of colours like blue and green is often described as:
(A) Advancing and energetic
(B) Calming and receding
(C) Exciting and vibrant
(D) Neutral and uninspiring

33. When planning a house, ensuring adequate sunlight and ventilation for different rooms according to the time of day and season relates to the principle of:
(A) Prospect
(B) Aspect
(C) Grouping
(D) Privacy

34. Housing regulations that specify standards for plumbing, electrical wiring, and structural safety fall under the category of:
(A) Norms and standards
(B) Zoning laws
(C) Housing finance rules
(D) Housing for special groups

35. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Energy efficiency in buildings is crucial for environmental sustainability.
Reason (R) : Efficient buildings consume less energy for heating, cooling, and lighting, thereby reducing the reliance on power plants that often use fossil fuels.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

36. Which of the following is considered a renewable energy source?
(A) Natural Gas
(B) Petroleum
(C) Uranium
(D) Wind

37. The process of creating sketches, models, and technical drawings to convey a product's design is termed as:
(A) Diffusion and innovation
(B) Design thinking
(C) Design communication
(D) Ergonomic consideration

38. Consider the following statements related to ergonomics.
1. Functional design of a workplace is a core application of ergonomics.
2. The primary goal is to increase worker fatigue.
3. It considers the relationship between the worker, the task, and the environment.
4. Anthropometric data is essential for designing user-centric products and spaces.
5. It is solely concerned with the aesthetics of the workplace.
Which of the above statement(s) is/are correct?
(A) 1, 2, and 5
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 3, 4, and 5

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39. The historical perspective of furniture is linked to:
(A) Green rating systems
(B) Energy auditing
(C) Research methods
(D) Architectural styles

40. In research, a question that allows the respondent to answer in their own words is known as:
(A) An open-ended question
(B) A closed-ended question format
(C) A multiple-choice question
(D) A ranking question

41. The principle of composition that guides the viewer's eye through the work of art, often to a focal area, is:
(A) Balance
(B) Unity
(C) Movement
(D) Proportion

42. A colour scheme created by using three colours that are equally spaced on the colour wheel is called:
(A) Triadic
(B) Complementary
(C) Monochromatic
(D) Analogous

43. Which of the following is an important consideration for achieving 'economy in construction'?
(A) Using expensive imported materials
(B) Creating complex and irregular house plans
(C) Ignoring building norms and standards
(D) Using locally available materials and simple designs

44. Planning housing for the elderly or differently-abled individuals falls under the category of:
(A) Standard zoning regulations
(B) Housing for special groups
(C) Housing finance for high-income groups
(D) Contemporary furniture trends

45. Which of the following is an index of indoor comfort?
(A) Building energy rating
(B) Housing finance index
(C) Thermal comfort
(D) Construction cost index

46. What is the most appropriate description of 'energy management'?
(A) The exclusive use of non-renewable energy sources for power.
(B) The national policy for exporting strategic energy resources.
(C) The technical science of effectively converting energy from one form to another.
(D) The process of systematically monitoring, controlling, and conserving building energy.

47. When a product is designed with the user's physical dimensions and capabilities in mind, it is an application of:
(A) Ergonomic considerations
(B) Diffusion and innovation
(C) Design communication
(D) Historical perspectives

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48. Identify the incorrect pair from the following.
(A) Anthropometry: Measurement of human body
(B) Physiological Cost of Work: The purchase price of machinery
(C) Body Mechanics: Efficient use of the body to produce motion
(D) Time and Motion Study: Analysis of work tasks for efficiency

49. 'Contemporary trends' in furnishing would most likely emphasize:
(A) Ornate carvings and heavy materials
(B) Minimalism, multi-functionality, and sustainability
(C) Single-purpose, immovable furniture
(D) Strict adherence to historical architectural styles

50. A researcher wants to measure the weight of an object. The scale provides data on which type of measurement scale?
A measuring scale that classifies data into distinct categories without any order or ranking, such as gender or hair colour, is a:
(A) Nominal scale
(B) Ordinal scale
(C) Interval scale
(D) Ratio scale

The sampling procedure is a structured, step-by-step process that requires clear initial parameters. The very first step involves identifying and defining the target population, which is the entire group of individuals that the researcher wishes to study. Without this clear definition, it is impossible to determine a sampling frame or select an appropriate technique to gather representative data.

300. (A) constraints related to time, budget, or access to the population.

Researchers often choose non-probability sampling methods when they face practical limitations that make probability sampling difficult. Factors such as limited financial resources, tight deadlines, or the lack of a complete list of population members can lead to the use of convenience or purposive techniques. In these situations, the researcher prioritizes feasibility and speed over statistical generalizability.

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60. What is the main purpose of using a 'ranking' scale in data collection?
(A) To categorize data without any order.
(B) To place items in order of preference or importance.
(C) To measure the exact difference between two points.
(D) To establish a true zero point for measurement.

61. Consider the following statements about principles of design.
1. Proportion refers to the relative size of parts to the whole.
2. Scale relates to the size of an object in relation to a human being.
3. Emphasis is the principle that creates a focal point.
4. Rhythm creates a sense of organized movement.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 2 and 4
(C) 1, 3 and 4
(D) 1, 2, 3 and 4

62. Identify the correct statement regarding the psychological effects of colour.
(A) Cool colours like red and orange make a room feel larger.
(B) Warm colours like blue and green are known as advancing colours.
(C) The psychological effect of colour is independent of cultural context.
(D) Colours can influence mood and perception of space.

63. The principle of planning that ensures rooms are placed logically, such as the dining room near the kitchen, is known as:
(A) Grouping
(B) Prospect
(C) Circulation
(D) Aspect

64. A house plan shaped like the letter 'U' typically provides which advantage?
(A) Minimized external wall area for economy.
(B) A sheltered courtyard or patio space.
(C) The simplest circulation path.
(D) The least amount of construction material.

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65. Which of the following is NOT a direct focus of 'housing for special groups'?
(A) Designing homes for elderly citizens with mobility issues.
(B) Building luxury villas for high-income expatriates.
(C) Creating accessible environments for differently-abled people.
(D) Adapting housing in disaster-prone areas for safety.

66. The measure of how well a building's interior provides comfortable temperature and humidity levels is a key component of:
(A) Indices of indoor comfort
(B) Energy auditing
(C) Green rating systems
(D) Building material impact assessment

67. An interior designer is creating a calming and spacious feel in a small bedroom. Which colour scheme would be most appropriate?
(A) A scheme with dark, warm colours like deep red and brown.
(B) A scheme with high-contrast, complementary colours like orange and blue.
(C) A scheme with light, cool colours like pale blue and soft green.
(D) A scheme with multiple bright, vibrant, and advancing colours.

68. Which of the following best defines 'conventional energy sources'?
(A) Energy sources that are relatively new and primarily based on advanced modern technology.
(B) Energy sources that are renewable and environmentally friendly.
(C) Energy sources that are only available in specific geographic locations.
(D) Energy sources that have been traditionally used for a long time, such as fossil fuels.

69. The final stage of the design thinking process, 'test', involves:
(A) Generating new ideas for a product.
(B) Defining the core problem to be solved.
(C) Getting feedback from users on the prototype.
(D) Creating detailed technical drawings.

129. Roman and Greek architectural styles are examples of:
(A) Contemporary trends
(B) Classical architectural styles
(C) Research methods
(D) Energy auditing techniques

130. A researcher wants to measure student satisfaction on a scale from "Very Unsatisfied" to "Very Satisfied". This uses what kind of measurement scale?
(A) Ordinal
(B) Nominal
(C) Ratio
(D) Random

131. The repeated use of a shape, colour, or line to create a sense of movement is the principle of:
(A) Balance
(B) Unity
(C) Rhythm
(D) Proportion

132. Read the following statements and select the correct option.
Statement I : Warm colours like red and yellow can create a feeling of energy and excitement.
Statement II : Cool colours like blue and green are often associated with calmness and serenity.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

133. A well-designed house plan that allows for a future room addition without major structural changes demonstrates the principle of:
(A) Prospect
(B) Aspect
(C) Flexibility
(D) Sanitation

134. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Housing finance is a critical component in making housing accessible to various income groups.
Reason (R) : Most people cannot afford to buy or build a house with their immediate savings, and rely on loans and mortgages.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

135. Which of the following building materials has a high environmental impact due to the large amount of energy required for its production?
(A) Bamboo
(B) Rammed earth
(C) Straw bale
(D) Cement

136. What is the fundamental difference between renewable and non-renewable energy sources?
(A) Renewable sources replenish themselves within a human lifespan.
(B) Renewable sources are always cheaper.
(C) Non-renewable sources are infinite.
(D) Non-renewable sources cause no pollution.

137. Which of the following is a key 'ergonomic consideration' in product design?
(A) Making the product as cheap as possible, regardless of usability.
(B) Using colours that are currently fashionable.
(C) Ensuring the product is safe, comfortable, and efficient for the user.
(D) Following a historical design style exactly.

138. The 'physiological cost of work' can be assessed by measuring:
(A) The worker's heart rate and oxygen consumption.
(B) The market price of the final product.
(C) The time taken to complete a task.
(D) The aesthetic appeal of the workplace.

139. Match the items in List I with those in List II.
List I: (Architectural Style)
P. Modernism
Q. Gothic
R. Art Deco
S. Baroque
List II: (Key Feature)
1. Pointed arches, flying buttresses
2. Ornate, dramatic, and emotional
3. Clean lines, function over form, "less is more"

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version of the product to test.
(B) Finalizing the marketing and communication strategy.
(C) Conducting a literature review on existing designs.
(D) Brainstorming a large number of potential solutions.

80. A 'time and motion study' in ergonomics is conducted primarily to:
(A) Conducting a comprehensive measurement of the primary anthropometric dimensions of the workforce.
(B) Improve efficiency and reduce fatigue by analyzing and simplifying task movements.
(C) Assess the psychological impact of the work environment.
(D) Determine the appropriate salary for a specific job.

81. Which of the following is an example of a contemporary trend in furniture design?
(A) Heavy, ornate furniture typical of the Victorian era.
(B) A modular sofa that can be reconfigured for different needs.
(C) A solid, immovable stone bench.
(D) Furniture made without consideration for sustainable materials.

82. A researcher uses a structured interview where every participant is asked the exact same set of questions in the same order. This is an example of:
(A) A standardized interview
(B) An unstructured interview
(C) An observation
(D) A ranking scale

83. Which element of art refers to a two-dimensional, enclosed area?
(A) Form
(B) Texture
(C) Shape
(D) Line

84. Read the following statements and select the correct option.
Statement I : A colour scheme using colours that are directly opposite each other on the colour wheel is called a complementary scheme.
Statement II : A complementary colour scheme is known for being low-contrast and subtle.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

85. Which principle of planning emphasizes the external view from within a house?
(A) Aspect
(B) Grouping
(C) Prospect
(D) Circulation

86. Which of the following best describes the significance of ergonomics?
(A) It focuses solely on the aesthetics of a product or workspace.
(B) It aims to increase efficiency, safety, and comfort by designing according to human capabilities.
(C) It is a historical study of architectural styles.
(D) It is a method for collecting quantitative research data.

87. Match the items in List I with those in List II.
List I: (Term)
P. Green Rating System
Q. Energy Audit
R. Zoning
S. Housing Finance
List II: (Related Concept)
1. Division of land for specific use
2. Evaluation of a building's environmental performance
3. Provision of loans for house construction
4. Assessment of energy consumption and savings
(A) P-2, Q-4, R-1, S-3
(B) P-4, Q-2, R-3, S-1
(C) P-1, Q-3, R-2, S-4
(D) P-3, Q-1, R-4, S-2

88. The distinction between renewable and non-renewable energy is based on:
(A) The rate at which the source can be replenished compared to the rate of consumption.
(B) The specific physical state of the energy source being utilized, such as solid, liquid, or gas.

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151. Which of the following is an example of a principle of composition in design?
(A) The use of the color red.
(B) The selection of a smooth texture.
(C) The use of a straight line.
(D) The creation of a focal point through emphasis.

152. Which of these is NOT a dimension of colour?
(A) Scheme
(B) Hue
(C) Value
(D) Intensity

153. Consider the following architectural styles.
1. Gothic
2. Modernism
3. Roman
4. Baroque

Which of the following represents a plausible chronological order from earliest to most recent?
(A) 3, 1, 4, 2
(B) 1, 3, 2, 4
(C) 2, 4, 1, 3
(D) 3, 4, 2, 1

154. In space planning, which type of house plan is characterized by rooms arranged along a single axis?
(A) I-shaped (Linear) plan
(B) U-shaped (Courtyard) plan
(C) L-shaped plan
(D) H-shaped plan

155. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Zoning regulations are essential for orderly urban development.
Reason (R) : By separating incompatible land uses like heavy industry and residential areas, zoning helps protect public health, safety, and property values.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

156. The environmental 'impact of building materials' can be reduced by:
(A) Using materials that require high energy to produce.
(B) Prioritizing the use of locally sourced, renewable, and recyclable materials.
(C) Transporting materials from very long distances.
(D) Ignoring the lifecycle of the materials.

157. Which of the following is a key aspect of 'energy management'?
(A) Maximizing energy wastage
(B) Promoting the use of non-renewable resources exclusively
(C) Implementing strategies for energy conservation and efficiency
(D) Ignoring national energy policies

158. The 'diffusion and innovation' process in product design explains:
(A) How to build a prototype.
(B) How to communicate a design through drawings.
(C) How to apply ergonomic principles.
(D) How a new product is adopted by different groups of consumers over time.

159. Consider the following statements about Ergonomics.
1. The man-machine-environment relationship is a central theme.
2. Anthropometry is the measurement of the human body for design.
3. Body mechanics relates to safe and efficient movement.
4. Functional design aims to make workplaces fit the user.
5. The physiological cost of work is not considered within its scope.

Which of the above statement(s) is/are correct?
(A) 1, 2, 3, and 4
(B) 2, 3, 4, and 5
(C) 1, 3, 4, and 5
(D) 1, 2, and 5

160. Window treatments like blinds and shades primarily serve the function of:
(A) Providing necessary structural support to the interior wall system.
(B) Controlling light, providing privacy, and

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(B) The efficiency, safety, and comfort of the person performing the work.
(C) The use of the most expensive materials.
(D) Historical accuracy in its architectural style.

98. A 'questionnaire' is a research tool that is best described as:
(A) A set of printed or written questions with a choice of answers, devised for the purposes of a survey or statistical study.
(B) A structured face-to-face conversation between a professional researcher and a specific respondent.
(C) The systematic recording of behavior in a natural setting.
(D) A scale that assigns numerical values to objects or events.

99. The principle of design that creates a feeling of stability and equal visual weight is:
(A) Rhythm
(B) Emphasis
(C) Balance
(D) Movement

100. A colour's name, such as red, blue, or yellow, refers to its:
(A) Value
(B) Intensity
(C) Saturation
(D) Hue

101. The ability to easily move from the main entrance to the living room, kitchen, and bedrooms without passing through other rooms unnecessarily relates to the principle of:
(A) Aspect
(B) Prospect
(C) Circulation
(D) Roominess

102. Which of the following is NOT a primary purpose of building regulations?
(A) Ensuring public health and safety
(B) Dictating interior colour schemes
(C) Controlling land use through zoning
(D) Setting minimum construction standards

103. 'Indices of indoor comfort' would likely include assessment of all the following EXCEPT:
(A) Air temperature and humidity
(B) Quality and level of lighting
(C) Noise levels and acoustics
(D) The price of the property

104. Read the following statements and select the correct option.
Statement I : Non-conventional energy sources are generally more environmentally friendly than conventional sources.
Statement II : Non-renewable energy sources are replenished naturally over a short period of time.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

105. A team is in the 'define' stage of the design thinking process. What is their primary activity?
(A) Building a functional model
(B) Brainstorming as many ideas as possible
(C) Clearly articulating the core problem they are trying to solve based on user insights
(D) Systematically observing and interacting with potential users in their natural environment.

106. Match the items in List I with those in List II.
List I: (Ergonomics Concept)
P. Anthropometry
Q. Body Mechanics
R. Functional Design
S. Physiological Cost
List II: (Application)
1. Measuring heart rate during a task.
2. Teaching workers to lift heavy boxes correctly.
3. Using population data to set a standard kitchen counter height.
4. Arranging tools within easy reach on a workbench.
(A) P-1, Q-2, R-3, S-4
(B) P-4, Q-3, R-1, S-2
(C) P-3, Q-2, R-4, S-1
(D) P-2, Q-4, R-1, S-3

107. The study of historical perspectives in furniture and furnishings helps designers to:
(A) Calculate the energy efficiency of a building.
(B) Secure housing finance from banks.
(C) Conducting academic studies to validate

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(C) The geographical location where the source is found.
(D) The cost of extracting and processing the energy source.

89. An industrial designer is developing a new handheld power tool. To ensure it fits comfortably in the user's hand and the controls are easy to reach, the designer would rely heavily on:
(A) Historical architectural styles
(B) National energy conservation policies
(C) Anthropometric data
(D) Housing finance models

90. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : The validity of a research tool is a prerequisite for its reliability.
Reason (R) : A tool cannot be considered reliable (consistent) if it is not valid (measuring the right thing) in the first place.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

91. Consider the following categories.
1. Line and Form
2. Balance and Rhythm
3. Emphasis and Proportion
4. Texture and Colour

Which of the above are considered principles of design?
(A) 1 and 4
(B) 2 and 3
(C) 1 and 2
(D) 3 and 4

92. Which type of house plan is generally considered the most economical in terms of the ratio of floor area to wall length?
(A) A complex, H-shaped plan
(B) A square or nearly square plan
(C) A long, narrow I-shaped plan
(D) A sprawling, irregular plan

93. Designing a ramp instead of stairs for a public building entrance is an example of considering the needs of:
(A) High-income residential housing groups.
(B) Industrial zoning requirements.
(C) Special groups (e.g., differently-abled).
(D) Energy conservation efforts.

94. Consider the following research tool preparation steps.
1. Administer the tool for data collection.
2. Determine the reliability and validity of the tool.
3. Select the appropriate tool (e.g., questionnaire, interview).
4. Define the research objective and variables to be measured.

Which of the following represents the correct logical sequence?
(A) 4, 3, 2, 1
(B) 1, 2, 3, 4
(C) 3, 1, 4, 2
(D) 4, 2, 1, 3

95. In the context of ergonomics, which of the following best describes the 'man-machine-environment' relationship?
(A) The interaction system where the human operator, the equipment used, and the surrounding conditions all affect performance.
(B) The historical and technological evolution of mechanical machines traditionally used by humans.
(C) The social interaction between workers in a factory.
(D) The financial relationship between the cost of a machine and the worker's salary.

96. A kitchen work triangle is inefficiently designed, causing the cook to take many extra steps between the sink, stove, and refrigerator. An ergonomist would analyze this using:
(A) Anthropometry
(B) Time and motion study
(C) National energy policies
(D) Green rating systems

97. The term 'functional design of workplace' implies that the design should prioritize:
(A) Aesthetics and visual appeal above all else.

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(B) Energy auditing
(C) Diffusion
(D) Anthropometry

118. The study of how the human body's dimensions impact design is the core of:
(A) Time and motion study
(B) Anthropometry
(C) Energy studies
(D) Design communication

119. A historical architectural style known for its grandeur, drama, and ornate decoration is:
(A) Minimalism
(B) Modernism
(C) Bauhaus
(D) Baroque

120. A measuring scale where the data can be ordered, and the differences between the values are meaningful, but there is no true zero point, is a(n):
(A) Interval scale
(B) Nominal scale
(C) Ordinal scale
(D) Ratio scale

121. The principle of drawing attention to a particular area in a design is known as:
(A) Balance
(B) Rhythm
(C) Emphasis
(D) Unity

122. Which of the following is a key 'factor affecting use of colour' in an interior space?
(A) The amount and type of available light
(B) The brand of paint used
(C) The day of the week
(D) The total market cost of the furniture pieces.

123. The 'need and importance' of housing is based on the fact that it provides:
(A) Only physical shelter from the elements.
(B) A place for social status display only.
(C) A temporary place to store belongings.
(D) Physical shelter, security, and a base for social and psychological well-being.

124. Which of these is a likely focus when planning housing for 'special areas' like coastal or earthquake-prone zones?
(A) Luxurious finishes and contemporary trends
(B) Structural resilience and safety features
(C) Historical architectural styles
(D) Minimizing construction costs at the expense of safety

125. Consider the following statements about energy efficiency and auditing.
1. Energy efficiency in buildings aims to reduce energy consumption.
2. An energy audit is the process of inspecting, surveying, and analyzing energy flows.
3. Implementing audit recommendations can lead to cost savings.
4. Green rating systems often include energy efficiency as a major criterion.
5. Energy efficiency is only relevant for industrial buildings, not residential ones.

Which of the above statement(s) is/are correct?
(A) 1, 2, 3, and 4
(B) 2, 3, 4, and 5
(C) 1, 3, and 5
(D) 1, 2, and 5

126. The primary difference between conventional and non-conventional energy sources is:
(A) Their state of matter
(B) Their colour
(C) Their renewability
(D) Their history and scale of use

127. Which of the following is NOT part of the design thinking process?
(A) Mediate
(B) Ideate
(C) Prototype
(D) Empathize

128. An ergonomist redesigns a factory assembly line to reduce the amount of reaching and bending required by workers. This is an application of:
(A) Historical perspective analysis
(B) Functional design of workplace
(C) Housing finance principles
(D) Green rating systems

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research tools for standardized data collection.
(D) Understand the evolution of style and its relationship with culture and architecture.

108. An 'interview' as a data collection tool is characterized by:
(A) A self-administered set of written questions.
(B) A direct verbal interaction between the researcher and the respondent.
(C) The researcher watching subjects from a distance.
(D) A numerical scale for rating attitudes.

109. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Good ergonomic design of a workplace can lead to increased productivity.
Reason (R) : When a workplace is designed to fit the worker, tasks can be performed more efficiently, with less fatigue and fewer errors.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

110. Consider the following list.
1. Balance and Unity
2. Line and Shape
3. Emphasis and Rhythm
4. Colour and Texture

Which of the above are elements of art?
(A) 1 and 3
(B) 2 and 4
(C) 1 and 2
(D) 3 and 4

111. Which factor most directly influences the psychological perception of a room's size?
(A) The use of colour and light
(B) The type of housing finance used
(C) The age of the building
(D) The zoning regulations of the area

112. The term 'roominess' in space planning refers to:
(A) The total number of rooms in a house.
(B) The effect of spaciousness achieved through good proportion and furniture arrangement.
(C) The cost per square foot of a room.
(D) The structural load-bearing capacity of the room's walls.

113. A city's master plan designates certain areas for parks, schools, and hospitals, and others for factories. This is an application of:
(A) Housing finance policies
(B) Zoning regulations
(C) Green rating systems
(D) National energy conservation efforts

114. Consider the following statements about housing for different income groups.
1. Housing for different income groups requires varied approaches to design, size, and cost.
2. Planning for low-income groups often prioritizes economy in construction and space optimization.
3. High-income group housing focuses solely on luxury without considering planning principles.
4. The concept is irrelevant to urban planning.

Which of the above statement(s) is/are correct?
(A) 1 and 2
(B) 2 and 3
(C) 3 and 4
(D) 1 and 4

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115. A building with large, well-placed windows for natural light and good insulation to reduce heating needs is an example of:
(A) Inadequate and poor energy management.
(B) A high physiological cost of work.
(C) Energy efficiency in building design.
(D) A flawed research methodology.

116. Which of these energy sources is classified as renewable and non-conventional?
(A) Coal
(B) Petroleum
(C) Natural Gas
(D) Geothermal

117. The process by which an innovation is communicated through certain channels over time among the members of a social system is called:
(A) Design thinking

4. Geometric patterns, glamour, symmetry

(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-1, R-4, S-2
(C) P-2, Q-4, R-1, S-3
(D) P-4, Q-3, R-2, S-1

140. For a research tool to be useful, it must be both:
(A) Complicated and expensive
(B) Reliable and valid
(C) Brief and subjective
(D) New and untested

141. A designer arranges furniture in a room to create a clear and easy path from the door to the window. This is an application of:
(A) Principles of composition
(B) Colour psychology
(C) Building regulations
(D) Energy management

142. A colour scheme based on one hue with its tints, shades, and tones is called:
(A) Complementary
(B) Triadic
(C) Analogous
(D) Monochromatic

143. Consider the following key principles of space planning.
1. Aspect: orientation for sun and wind.
2. Prospect: the external view.
3. Circulation: movement paths.
4. Grouping: logical arrangement of rooms.
5. Privacy: seclusion from sight and sound.

Which of the above statement(s) is/are correct?
(A) 1, 2, 3, 4, and 5
(B) 1, 3, and 5 only
(C) 2 and 4 only
(D) 1, 2, 4, and 5

144. 'Norms and standards' in building regulations refer to:
(A) The preferred and traditional architectural styles in a particular region.
(B) Established rules and criteria for construction quality, safety, and performance.
(C) The methods of financing a construction project.
(D) Trends in interior decoration.

145. An energy audit reveals that a building is losing significant heat through single-pane windows. Which recommendation would improve 'energy efficiency'?
(A) Painting the walls a darker colour.
(B) Installing double or triple-pane windows.
(C) Increasing the thermostat temperature.
(D) Removing all window treatments.

146. A nation's policy to promote the use of solar panels on rooftops is an example of:
(A) A national effort on energy conservation and renewable energy use.
(B) A focus on conventional energy.
(C) A standardized building zoning and land-use regulation.
(D) A method of housing finance.

147. A team is designing a new school bag for children. They spend a week in a school, observing how children use bags and talking to them about preferences. This phase is best described as:
(A) Prototyping
(B) Testing
(C) Empathizing
(D) Ideating

148. The concept of 'body mechanics' in ergonomics is most concerned with:
(A) The measurement of body parts.
(B) The complex psychological reaction to a specific mechanical machine.
(C) The study of work duration.
(D) The posture and movements of the human body during activities.

149. Identify the correct pair.
(A) Wall finish : Window treatment
(B) Furniture : Furnishing
(C) Architectural style : Contemporary trend
(D) Baroque style : Minimalist features

150. A measurement scale that has a true zero point, allowing for meaningful ratio comparisons (e.g., weight, height), is a:
(A) Nominal scale
(B) Ratio scale
(C) Ordinal scale
(D) Interval scale

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70. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Proper body mechanics, such as lifting with the legs instead of the back, are emphasized in ergonomics.
Reason (R) : Using correct body mechanics reduces physical stress on the spine and muscles, minimizing the risk of injury.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

71. A designer choosing a specific type of paint, wallpaper, or wood paneling for a room is making a decision about:
(A) Window treatments
(B) Architectural style
(C) Furniture layout
(D) Wall finishes

72. A research study is conducted to see if a new teaching method improves test scores. The researcher uses the same test before and after the intervention. To be useful, the test must measure academic knowledge consistently. This refers to the test's:
(A) Reliability
(B) Subjectivity
(C) Novelty
(D) Affordability

73. The relationship between the sizes of different objects within a design is referred to as:
(A) Balance
(B) Rhythm
(C) Proportion
(D) Harmony

74. The purity or brightness of a colour is known as its:
(A) Intensity or Chroma
(B) Hue or spectral identity
(C) Value
(D) Temperature

75. In space planning, 'privacy' is a key principle. Which of these is an example of ensuring visual privacy?
(A) Using acoustic soundproofing materials and buffer zones between private bedrooms.
(B) Ensuring the kitchen has good ventilation.
(C) Having a good view from the living room window.
(D) Placing the main entrance so it does not open directly into the living room.

76. Building regulations designed to segregate industrial areas from residential neighborhoods are an application of:
(A) Building norms
(B) Zoning
(C) Housing finance
(D) Energy auditing

77. Consider the following statements about housing and the environment.
1. The choice of building materials has no impact on the environment.
2. Green rating systems are used to assess the sustainability of buildings.
3. Energy efficiency is a key factor in creating environmentally friendly buildings.
4. Indices of indoor comfort are unrelated to the building's environmental performance.
5. Energy auditing helps in identifying energy wastage in buildings.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 2, 3, and 5
(C) 1, 4, and 5
(D) 2, 4, and 5

78. Which of the following is a key goal of national efforts on energy conservation?
(A) To increase the country's dependence on imported fossil fuels.
(B) To promote wasteful energy consumption practices.
(C) To discourage the use of renewable energy sources.
(D) To reduce overall energy demand and improve efficiency.

79. The 'prototype' stage in the design thinking process involves:
(A) Creating an inexpensive, scaled-down

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adding decoration.
(C) Improving the building's green rating.
(D) Serving as a primary wall finish.

161. A researcher is concerned that their presence might be influencing the behavior of the people they are studying. This is a potential issue in which data collection method?
(A) Questionnaire
(B) Observation
(C) Ranking Scale
(D) Measurement

162. The 'scale' of a chair in a room refers to:
(A) The chair's size relative to the room and the people using it.
(B) The color of the chair.
(C) The material the chair is made from.
(D) The cost of the chair.

163. A designer uses shades of blue, blue-green, and green in a room. What type of color scheme is this?
(A) Complementary
(B) Monochromatic
(C) Analogous
(D) Triadic

164. What is the primary purpose of 'housing for special groups'?
(A) To create exclusive, gated communities.
(B) To segregate certain populations from the rest of society.
(C) To experiment with new architectural styles.
(D) To provide housing that meets the specific physical and social needs of groups like the elderly or disabled.

165. Match the items in List I with those in List II.
List I: (Energy Source Type)
P. Conventional & Non-renewable
Q. Non-conventional & Renewable
R. Conventional & Renewable
S. Non-conventional & Non-renewable
List II: (Example)
1. Hydroelectric power (large scale)
2. Nuclear energy (Uranium)
3. Coal
4. Wind Power
(A) P-3, Q-4, R-1, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-1, R-2, S-3
(D) P-3, Q-2, R-4, S-1

166. A designer who focuses on making a kettle easy to hold, with a handle that doesn't get hot, and a spout that pours without dripping, is applying:
(A) Design communication
(B) Ergonomic considerations
(C) Historical perspectives
(D) Housing finance rules

167. Read the following statements and select the correct option.
Statement I : The functional design of a workplace, such as an office desk and chair, should be based on average anthropometric data.
Statement II : A well-designed workplace improves user comfort and can reduce the risk of musculoskeletal disorders.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

168. Furniture and furnishings from the 'Modernist' period (early to mid-20th century) are typically characterized by:
(A) Simplicity, clean lines, and the principle of "form follows function".
(B) Ornate carvings, heavy fabrics, and dark woods.
(C) Asymmetrical forms, pastel colors, and floral motifs.
(D) Raw, unfinished materials and an industrial look.

169. In research, the consistency of a measurement tool is called its _____, while the accuracy of the tool is called its _____.
(A) validity; reliability
(B) observation; interview
(C) reliability; validity
(D) ranking; measurement

170. Which of the following is NOT a principle of design?
(A) Form
(B) Harmony
(C) Balance
(D) Rhythm

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(D) Architectural styles

192. Which of the following statements about Green Rating Systems is incorrect?
(A) They aim to promote sustainable building practices.
(B) They are only applicable to commercial buildings.
(C) They evaluate aspects like energy efficiency, water conservation, and material use.
(D) Achieving a high rating can enhance the marketability of a building.

193. The concept of 'energy management' includes all of the following EXCEPT:
(A) Conducting energy audits to find wastage.
(B) Ignoring energy consumption patterns.
(C) Implementing measures to conserve energy.
(D) Switching to more energy-efficient appliances.

194. Read the following statements and select the correct option.
Statement I : The 'design thinking process' starts with generating solutions.
Statement II : The first stage of the 'design thinking process' is to empathize with the user to understand their needs.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

195. Which of the following is a direct application of anthropometric data?
(A) Choosing a scientifically proven color scheme for a room.
(B) Writing a history of furniture design.
(C) Deciding the height of a kitchen counter to suit the average user.
(D) Calculating the interest on a home loan.

196. The term 'contemporary trends' in furnishing suggests a focus on:
(A) Strict copies of furniture from the 18th century.
(B) The use of exclusively natural, unfinished materials.
(C) Designs that are intentionally uncomfortable.
(D) Designs that are currently popular and relevant to modern lifestyles.

197. A researcher develops a new scale to measure 'interior design satisfaction'. To establish 'validity', the researcher could:
(A) Administer the scale multiple times to the same group to verify if the scores are consistent.
(B) Ensure the scale is easy to read and has clear instructions.
(C) Compare the scores from the new scale with scores from an existing, well-established scale that measures the same concept.
(D) Ask a small group of friends if they like the scale.

198. The creation of harmony, where all the visual elements are unified, is a key objective of:
(A) Housing finance
(B) Principles of composition
(C) Energy auditing
(D) Building regulations

199. A hospital is painting a children's ward. To create a cheerful and stimulating environment, which colours would be most appropriate?
(A) Black and grey
(B) Muted, dark shades of brown and green
(C) Stark white
(D) Bright primary colors like yellow, red, and blue

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200. Planning housing for a Low-Income Group (LIG) would prioritize:
(A) Cost-effectiveness, durability, and functional space.
(B) Large rooms and luxury finishes.
(C) Complex architectural designs.
(D) Imported building materials.

201. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : The selection of building materials significantly impacts indoor comfort.
Reason (R) : Materials with good insulation properties help maintain stable indoor temperatures, contributing to thermal comfort.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct

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2. The tool produces consistent results.
3. Systematically watching and recording behavior.
4. A written set of questions for data collection.

(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-3, Q-4, R-1, S-2
(D) P-4, Q-3, R-2, S-1

182. Consider the following statements about challenges associated with housing in special areas like flood-plains or seismic zones.
1. Need for specialized construction techniques.
2. Higher construction costs.
3. Importance of early warning systems.
4. Use of conventional, non-resilient building designs.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 2 and 4
(C) 1 and 3
(D) 1, 2, 3, and 4

183. Which statement correctly identifies the relationship between energy efficiency and green rating systems?
(A) Green rating systems are solely based on a building's energy efficiency.
(B) Green rating systems and energy efficiency are unrelated concepts.
(C) A building can get a high green rating even if it is very energy inefficient.
(D) Energy efficiency is a significant component that is assessed within a comprehensive green rating system.

184. The 'Design Thinking Process' is best described as:
(A) A human-centered, iterative approach to problem-solving and innovation.
(B) A linear, rigid method for industrial manufacturing.
(C) A historical study of design styles.
(D) A software for creating 3D models.

185. A factory worker has to repeatedly lift boxes from the floor to a high shelf, leading to back strain. An ergonomic intervention would focus on:
(A) Changing the color of the boxes.
(B) Increasing the worker's hours.
(C) Redesigning the task or workspace to reduce lifting and straining.
(D) Conducting a survey about the worker's job satisfaction.

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186. Venetian blinds and Roman shades are both examples of:
(A) Window treatments
(B) Wall finishes
(C) Architectural styles
(D) Research tools

187. A researcher wants to measure the temperature in a room. A thermometer is used. The thermometer provides data on which type of scale?
(A) Nominal
(B) Ordinal
(C) Abstract
(D) Interval

188. Which of the following correctly pairs an element of art with a principle of design?
(A) Balance, Form
(B) Line, Rhythm
(C) Shape, Texture
(D) Emphasis, Value

189. A small, dark room can be made to feel larger and brighter by using:
(A) Dark, textured wall finishes.
(B) Heavy, dark draperies covering the windows.
(C) Light, cool colors and smooth surfaces.
(D) Large, bulky furniture.

190. What is the primary 'importance' of housing from a societal perspective?
(A) It is only a private matter with no public importance.
(B) It serves as a tool for political control.
(C) Its sole purpose is to generate tax revenue.
(D) It is a key indicator of economic activity and provides employment.

191. Regulations that mandate a certain percentage of a plot of land must be left as open space fall under:
(A) Norms and standards
(B) Housing finance
(C) Energy auditing

five questions.

251. According to the passage, what is the fundamental difference between elements of art and principles of design?
(A) Elements are abstract concepts, while principles are tangible components.
(B) Elements are the basic components used in a design, while principles are the guidelines for arranging them.
(C) Elements are primarily concerned with colour, while principles are concerned with balance and rhythm.
(D) Elements dictate the overall message, while principles are about the materials used.

252. The passage uses the analogy of language to describe design fundamentals. In this analogy, the principles of design are most comparable to:
(A) The rules of grammar.
(B) The letters of the alphabet.
(C) The vocabulary or words.
(D) The final written manuscript.

253. Which of the following statements best describes the role of 'principles of composition'?
(A) They are a separate set of rules, independent of the elements and principles of design.
(B) They are an alternative term for the elements of art, such as line and texture.
(C) They represent the strategic application of design principles to organize the elements of art.
(D) They focus solely on achieving symmetrical balance within a design.

254. A designer who makes one object in a room significantly larger and brighter than all others is primarily using which principle of design?
(A) Rhythm
(B) Unity
(C) Proportion
(D) Emphasis

255. Based on the source, a design that successfully guides the viewer's eye and communicates a clear message is a direct result of:
(A) Using a wide variety of art elements.
(B) Adhering strictly to symmetrical balance.
(C) An effective application of compositional principles.
(D) Prioritizing texture over all other elements.

Direction : Please read the following source carefully.

Colour is a multifaceted element in interior design, understood through its primary dimensions: hue, value, and intensity. Hue is the purest form of a colour, the attribute that allows us to distinguish red from blue or green. Value refers to the lightness or darkness of a hue, created by adding white (tint) or black (shade). Intensity, also known as chroma or saturation, describes the brightness or dullness of a colour. Beyond these technical dimensions, colour exerts significant psychological effects. Warm colours like reds, oranges, and yellows are often associated with energy, passion, and happiness, and can make a space feel cozier, while cool colours like blues, greens, and purples tend to evoke calmness and serenity, and can make a space appear more expansive. The application of these principles is governed by colour schemes, which are planned combinations of colours. Common schemes include monochromatic (variations of one hue), analogous (adjacent colours on the colour wheel), and complementary (opposite colours on the colour wheel). The final use of colour is further affected by practical factors such as the amount and type of light in a room, the size and scale of the space, and the textures of the materials used, all of which can alter the perception of a chosen hue.

Based on the above source, attempt the following five questions.

256. Which term describes the lightness or darkness of a specific hue?
(A) Intensity
(B) Value
(C) Chroma
(D) Saturation

257. A designer wishes to create a tranquil and serene bedroom that also appears larger than its actual dimensions. According to the psychological effects mentioned in the passage, which colour family would be most appropriate?
(A) A palette based on reds and oranges.
(B) A selection of bright, high-intensity colours.
(C) A scheme using yellows and warm whites.
(D) A collection of blues and greens.

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explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

202. Consider the following factors in the 'functional design of a workplace'.
1. Adjustability of furniture.
2. Efficient layout to minimize unnecessary movement.
3. Adequate lighting for the task.
4. The historical significance of the building.
5. The personal color preferences of the CEO.

Which of the above statement(s) is/are correct?
(A) 1, 4, and 5
(B) 1, 2, and 3
(C) 2, 3, and 4
(D) 3, 4, and 5

203. The study of how work is performed to identify and eliminate wasted motion is known as:
(A) Anthropometry
(B) Design communication
(C) Energy study
(D) Time and motion study

204. The architectural style that flourished in Europe in the high and late Middle Ages, characterized by pointed arches and flying buttresses, is:
(A) Romanesque
(B) Gothic
(C) Neoclassical
(D) Modern

205. If a researcher can demonstrate that their data collection tool is both consistent and measures what it purports to measure, the tool is considered:
(A) Economical and fast
(B) Popular and trendy
(C) Reliable and valid
(D) Subjective and biased

206. The three 'dimensions of colour' are:
(A) Warm, cool, and neutral
(B) Primary, secondary, and tertiary
(C) Monochromatic, analogous, and complementary
(D) Hue, value, and intensity

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207. A family wants a house plan that allows for good cross-ventilation and creates a private outdoor space. Which plan type would be a good option?
(A) A U-shaped or H-shaped plan.
(B) A solid cube with no external indentations.
(C) A linear plan on a narrow plot.
(D) A subterranean or underground plan.

208. The main purpose of 'housing finance' institutions is to:
(A) Regulate building construction quality.
(B) Provide funds to individuals or developers for housing projects.
(C) Design energy-efficient buildings.
(D) Conduct research on contemporary furniture trends.

209. Which of the following is a key 'index of indoor comfort'?
(A) The exterior paint colour of the building.
(B) The acoustic quality and background noise level.
(C) The cost of the land.
(D) The proximity to a shopping mall.

210. Which of the following is the best example of 'energy management' in a home?
(A) Installing smart thermostats and using energy-efficient LED bulbs.
(B) Leaving all lights and appliances on continuously.
(C) Choosing a home based on its architectural style.
(D) Using only non-renewable energy sources.

211. What is the role of 'design communication' in the product design process?
(A) To keep the design a secret from everyone.
(B) To test the product with end-users.
(C) To convey the design idea clearly to stakeholders like engineers, marketers, and clients.
(D) Extensively researching the primary needs and preferences of the target audience.

212. A 'time and motion study' breaks a task down into its fundamental movements. These movements are known as:
(A) Ergonomes
(B) Anthropoms
(C) Chronos

(D) Therbligs

213. Read the following statements and select the correct option.
Statement I : Contemporary furniture trends often incorporate sustainable materials and manufacturing processes.
Statement II : There is a growing consumer and designer awareness of the environmental impact of products.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

214. Which data collection tool is most appropriate for a study aiming to get in-depth, qualitative insights from a small number of individuals?
(A) A multiple-choice questionnaire sent to 1000 people.
(B) An in-depth, semi-structured interview.
(C) A structured observation of public behavior.
(D) A nominal scale measurement.

215. The principle of 'proportion' in design refers to:
(A) The path the viewer's eye takes through the work.
(B) The tactile quality of a surface.
(C) The symmetrical arrangement of elements.
(D) The relationship in size between a part of the design and the whole.

216. Match the items in List I with those in List II.
List I: (Colour Scheme)
P. Monochromatic
Q. Complementary
R. Analogous
S. Triadic
List II: (Description)
1. Uses colours adjacent to each other on the colour wheel.
2. Uses three colours equally spaced on the colour wheel.
3. Uses variations in lightness and saturation of a single colour.
4. Uses colours opposite each other on the colour wheel.
(A) P-3, Q-4, R-1, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-1, R-4, S-3

217. When planning a house, the placement of the kitchen to receive morning sun and the bedrooms to be cool in the afternoon relates to the principle of:
(A) Prospect
(B) Grouping
(C) Aspect
(D) Circulation

218. An architect is designing a home for a person who uses a wheelchair. The design includes wider doorways, no steps, and lower countertops. This is an application of:
(A) Housing for special groups.
(B) Planning for a high-income group.
(C) Economy in construction.
(D) Following contemporary trends.

219. Consider the following factors evaluated in assessing the 'environmental impact of building materials'.
1. Energy consumed during extraction and manufacturing.
2. Pollution generated during its lifecycle.
3. Potential for recycling or reuse.
4. The historical use of the material.
Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 1 and 4
(C) 2, 3, and 4
(D) 1 and 2 only

220. Solar, wind, and biomass are all examples of which type of energy?
(A) Non-renewable
(B) Renewable
(C) Conventional
(D) Nuclear

221. The 'prototype' in the design thinking process serves to:
(A) Finalize the product for mass production.
(B) Document the history of the design.
(C) Act as a tangible artifact that can be tested and used to gather feedback.
(D) Define the problem statement.

222. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : A well-designed machine

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control panel should be confusing to operate.
Reason (R) : Confusing controls reduce the chance of human error and increase safety.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) Both A and R are false.

223. What is the primary difference between curtains and draperies?
(A) Draperies are generally heavier, lined, and more formal than curtains.
(B) Curtains are for windows, draperies are for doors.
(C) Curtains are made of plastic, draperies are made of fabric.
(D) There is no difference; the terms are interchangeable.

224. A researcher asks participants to sort a list of furniture styles from 'most preferred' to 'least preferred'. This is an example of:
(A) A nominal scale
(B) Ranking
(C) An interview
(D) Observation

225. The feeling of 'unity' in an interior design is achieved when:
(A) All elements are different and unrelated.
(B) All the elements and principles work together to create a sense of belonging and wholeness.
(C) A single, overpowering color is used everywhere.
(D) The design uses only one type of material.

226. A user's heart rate increases significantly when performing a poorly designed manual task. This is a measure of:
(A) The physiological cost of work
(B) Anthropometric measurement data
(C) Design communication
(D) The reliability of the tool

227. A key principle of 'economy in construction' is:
(A) To use the most expensive and rare materials.
(B) To maximize the surface area of external walls.
(C) To have a simple, rectangular, or square house plan.
(D) To change the design frequently during construction.

228. Consider the following sources of housing finance.
1. Loan from a national housing bank.
2. Borrowing from friends and family.
3. Loan from a local cooperative society.
4. Using personal savings.

Which of the following represents the correct sequence from most formal/institutional to least formal?
(A) 1, 3, 2, 4
(B) 2, 4, 3, 1
(C) 1, 2, 3, 4
(D) 4, 2, 3, 1

229. Consider the following statements about energy in buildings.
1. Energy efficiency aims to use less energy to achieve the same level of comfort.
2. Energy auditing is the first step towards systematic energy management.
3. Indices of indoor comfort, like thermal comfort, are influenced by the building's energy performance.
4. Green rating systems often reward buildings for high energy efficiency.

Which of the above statement(s) is/are correct?
(A) 1 and 2 only
(B) 1, 2, and 3
(C) 3 and 4 only
(D) 1, 2, 3, and 4

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230. In ergonomics, 'energy studies' likely refers to:
(A) The study of national energy grids.
(B) The measurement of human energy expenditure during work.
(C) The study of renewable energy sources.
(D) The financial cost of electricity for a factory.

231. The use of plaster of Paris (POP) for creating decorative ceilings is an example of a:
(A) Wall finish
(B) Window treatment
(C) Furnishing
(D) Ceiling finish/treatment

171. The psychological effect of red is often associated with:
(A) Deep calmness and inner peace
(B) Sadness and melancholy
(C) Nature and tranquility
(D) Energy, passion, and excitement

172. The layout of paths, corridors, and stairs within a building is referred to as:
(A) Grouping
(B) Circulation
(C) Aspect
(D) Prospect

173. The 'economy in construction' can be achieved through all of the following methods EXCEPT:
(A) Using a simple and compact plan.
(B) Selecting locally available materials.
(C) Using oversized structural members and complex shapes.
(D) Employing skilled labor for better quality work.

174. Which of the following best describes the 'scope' of ergonomics?
(A) It is limited to the design of office chairs only.
(B) It is only concerned with the physical environment, not the machine or the user.
(C) A specialized sub-field of interior design focused primarily on advanced color psychology.
(D) It is a broad field that applies to the design of everything from tools and workspaces to complex systems to improve human well-being and performance.

175. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Anthropometric data varies significantly across different populations, ages, and genders.
Reason (R) : Designers must consider the specific target user group when using anthropometric data to avoid creating products that are unsuitable for them.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

176. Which of the following would be considered a 'wall finish'?
(A) Curtain
(B) Paint
(C) Carpet
(D) Blind

177. A researcher gives a questionnaire to a group of people today and the same questionnaire to the same group next week, and gets very different results. This indicates a problem with the tool's:
(A) Validity
(B) Reliability
(C) Ranking
(D) Format

178. The overall coherence and pleasing relationship among the different parts of a design is called:
(A) Harmony
(B) Contrast
(C) Emphasis
(D) Form

179. A key factor to consider when choosing colors for a hospital room would be their:
(A) Cost
(B) Trendiness
(C) Psychological effects
(D) Rarity

180. A well-planned house should provide for adequate disposal of waste and have well-ventilated bathrooms. This relates to the principle of:
(A) Grouping
(B) Prospect
(C) Roominess
(D) Sanitation

181. Match the items in List I with those in List II.
List I: (Research Concept)
P. Reliability
Q. Validity
R. Questionnaire
S. Observation
List II: (Description)
1. The tool measures what it is intended to measure.

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(A) It measures the right concept, but does so inconsistently.
(B) It measures the right concept accurately and consistently.
(C) It does not measure anything.
(D) It measures something consistently, but it is not the concept it is supposed to measure.

245. The principle of 'emphasis' is used in interior design to:
(A) Make a room feel chaotic and disorganized.
(B) Ensure every item in the room has equal visual weight.
(C) Create a focal point, such as a fireplace or a piece of art.
(D) Blend all elements together so that nothing stands out.

246. The concept of 'diffusion and innovation' would be most relevant for a company trying to:
(A) Calculate the energy savings from insulating a house.
(B) Understand how to market and spread the adoption of its new smart home device.
(C) Choose a wall finish for a historic building restoration.
(D) Conduct a time and motion study on an assembly line.

247. The primary goal of a 'functional design of workplace' is to enhance:
(A) The social status of the employee.
(B) The aesthetic appeal at the cost of usability.
(C) The historical accuracy of the furniture.
(D) The worker's performance, safety, and comfort.

248. Match the items in List I with those in List II.
List I: (Term)
P. Anthropometry
Q. Ergonomics
R. Design Thinking
S. Diffusion
List II: (Definition)
1. A human-centered problem-solving process.
2. The science of designing for human use.
3. The process by which an innovation spreads.
4. The scientific study of human body measurements.
(A) P-1, Q-3, R-2, S-4
(B) P-4, Q-2, R-1, S-3
(C) P-2, Q-4, R-3, S-1
(D) P-3, Q-1, R-4, S-2

249. Which of the following is an example of a 'window treatment'?
(A) A load-bearing wall
(B) A decorative painted mural
(C) A set of vertical blinds
(D) A parquet floor

250. A researcher wants to understand the lived experience of families in a newly designed low-income housing project. The most appropriate data collection tool would be:
(A) A series of in-depth interviews and observations.
(B) A ranking scale of building materials.
(C) A questionnaire with 'yes/no' answers.
(D) A measurement of the building's energy consumption.

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Direction : Please read the following source carefully.

The fundamentals of design are the foundational pillars upon which all visual compositions are built, comprising two key categories: elements of art and principles of design. The elements of art are the basic vocabulary, the tangible components that an artist or designer uses to create a work. These include line, shape, form, space, texture, and colour. The principles of design, conversely, are the grammatical rules or guidelines for arranging these elements effectively. They dictate how the elements are organized to create a cohesive and aesthetically pleasing whole. Key principles include balance (symmetrical, asymmetrical, radial), rhythm, emphasis, proportion, scale, unity, and contrast. The overarching concept that brings these together is the principles of composition, which refer to the strategic arrangement and structuring of all visual elements within the finished piece. A successful composition uses the principles of design to manipulate the elements of art in a way that guides the viewer's eye, communicates a message, and evokes a specific response. For instance, emphasis might be created by using a contrasting colour (element) to draw attention to a focal point, thereby applying a principle to an element to achieve a compositional goal.

Based on the above source, attempt the following

232. A data collection tool that is administered face-to-face and allows for probing and follow-up questions is a(n):
(A) Interview
(B) Questionnaire
(C) Observation checklist
(D) Ranking scale

233. The element of art that relates to the sense of touch is:
(A) Line
(B) Colour
(C) Texture
(D) Value

234. In housing, 'sanitation' as a principle of planning refers to:
(A) The provision for light, ventilation, and disposal of waste and sewage.
(B) The aesthetic appearance of the bathroom.
(C) The view from the bathroom window.
(D) The grouping of the bathroom with the living room.

235. What is the most significant 'ergonomic consideration' for designing a computer mouse?
(A) The specific aesthetic colour of the mouse body.
(B) The brand logo on the mouse.
(C) The packaging of the mouse.
(D) The shape and size, ensuring it fits the hand comfortably and reduces strain.

236. The validity of a research instrument refers to its ability to:
(A) Produce the same results on repeated trials.
(B) Measure what it is intended to measure.
(C) Be administered quickly.
(D) Be easily scored.

237. The principle of using elements to create a path for the eye to follow in a design is:
(A) Balance
(B) Unity
(C) Movement or Rhythm
(D) Proportion

238. Read the following statements and select the correct option.
Statement I : The dimensions of color are hue, value, and intensity.
Statement II : The psychological effects of color are universal and not influenced by culture or personal experience.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

239. 'Green rating systems' such as LEED or GRIHA are tools used to:
(A) Assess and certify the environmental performance of a building.
(B) Determine the mortgage rate for a property.
(C) Enforce zoning laws.
(D) Select interior paint colors.

240. Which of the following is NOT a source of 'housing finance'?
(A) Commercial banks
(B) Zoning regulations
(C) Housing Finance Companies (HFCs)
(D) Personal savings

241. Which of the following correctly describes a relationship from the field of ergonomics?
(A) Time and motion study: A method to increase the complexity of tasks.
(B) Man, machine, environment: An interaction model for analyzing work systems.
(C) Body mechanics: The financial cost of running a machine.
(D) Anthropometry: The study of the history of tools.

242. A designer creates a detailed 3D model of a new chair design on a computer to show to a client. This is an example of:
(A) Design communication
(B) Design thinking
(C) Diffusion
(D) Energy study

243. The "form follows function" philosophy is most closely associated with which architectural style?
(A) Baroque
(B) Victorian
(C) Modernism
(D) Post-modernism

244. If a scale is reliable but not valid, it means that:

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258. An interior design plan that uses various shades and tints of only the colour blue would be classified as which type of colour scheme?
(A) Monochromatic
(B) Analogous
(C) Complementary
(D) Triadic

259. According to the passage, what is the relationship between intensity and saturation?
(A) They are opposite dimensions of colour.
(B) Intensity refers to adding white, while saturation refers to adding black.
(C) They are synonymous terms describing the brightness or dullness of a colour.
(D) Intensity is a psychological effect, whereas saturation is a physical dimension.

260. The passage suggests that the final appearance of a chosen colour in a room is dependent on several factors. Which of the following is NOT mentioned as a factor affecting the use of colour?
(A) The historical origin of the colour pigment.
(B) The lighting conditions within the space.
(C) The surface textures of furniture and walls.
(D) The perceived size of the room.

Direction : Please read the following source carefully.

Effective space planning and design are fundamental to addressing the housing need, which is a universal human requirement for shelter and security. The process is guided by core principles of planning spaces that ensure functionality, comfort, and aesthetic appeal. These principles include circulation, which dictates the flow of movement within and between spaces; orientation, which considers the placement of a house in relation to the sun and wind for optimal light and ventilation; and zoning, which involves grouping rooms with similar functions together (e.g., private zones like bedrooms versus public zones like living areas). Different types of house plans, such as open, semi-open, or closed plans, cater to varying lifestyle preferences and cultural contexts. A critical aspect of modern housing design is achieving economy in construction, which involves making strategic choices in materials, techniques, and layout to reduce costs without compromising structural integrity or livability. This consideration is particularly vital when planning for different income groups. For lower-income groups, efficient use of space, simple structural forms, and use of locally available materials are paramount. For higher-income groups, while economy is still a factor, planning may involve more complex layouts, specialized spaces, and higher-end finishes, reflecting different priorities and larger budgets.

Based on the above source, attempt the following five questions.

261. Grouping all bedrooms in one area of the house, separate from the living and dining rooms, is an application of which principle of planning?
(A) Circulation
(B) Orientation
(C) Economy
(D) Zoning

262. According to the passage, positioning a house to maximize natural light in the morning and minimize harsh afternoon sun is an example of applying the principle of:
(A) Circulation
(B) Orientation
(C) House planning
(D) Zoning

263. What is the primary focus of achieving 'economy in construction' as described in the source?
(A) Using only the most expensive and durable materials.
(B) Creating the largest possible house for a given budget.
(C) Reducing costs through strategic choices in layout and materials.
(D) Prioritizing aesthetic appeal over structural integrity.

264. The passage implies that when planning for different income groups:
(A) The fundamental principles of planning like circulation and orientation are disregarded for lower-income groups.
(B) Higher-income group housing does not need to consider economy in construction.
(C) Open house plans are exclusively for higher-income groups, and closed plans are for lower-income groups.
(D) The application of design principles and material choices are adapted to fit different

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17. (B) To assess and identify opportunities for energy savings.
To improve the sustainability and operational costs of a building, a systematic evaluation of energy use is necessary. This process involves inspecting and analyzing energy flows to identify where power is being wasted or used inefficiently. By pinpointing these areas, owners can implement targeted improvements, such as better insulation or more efficient appliances. The goal is to maximize energy conservation while maintaining the comfort of the occupants.

18. (A) 2, 5, 4, 1, 3
The design thinking process follows a logical sequence to solve complex problems effectively. It begins with building empathy for the user, followed by defining the core problem. Next, designers brainstorm creative ideas and develop simple models or prototypes of their concepts. The final step involves gathering feedback through testing with actual users. This iterative cycle ensures that the final product is both functional and user-friendly.

19. (C) Designing a factory workstation with adjustable chair height and good lighting.
Designing effective work environments requires a deep understanding of how humans interact with tools and their surroundings. A prime example involves creating a factory station where the physical equipment can be adjusted to fit individual needs, complemented by optimal lighting conditions. This approach reduces physical strain and mental fatigue, thereby increasing productivity. It exemplifies the core ergonomic goal of harmonizing the relationship between the worker and the workspace.

20. (A) Both A and R are true and R is the correct explanation of A.
As urban living spaces become increasingly compact, there is a growing demand for furniture that maximizes efficiency without sacrificing style. Modern lifestyles require versatile solutions that can serve multiple purposes or be easily stored. Consequently, contemporary furniture often features clean lines and multi-functional designs to fit within smaller footprints. This evolution in design directly responds to the practical needs and spatial constraints of living in dense city environments.

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21. (C) Reliability
When developing research instruments, it is essential to ensure that the results obtained are consistent over time. If a tool produces stable and dependable data when repeatedly used under the same conditions, it is considered to have high quality in this area. This characteristic is vital for the credibility of the findings. Without such consistency, the data might be influenced by random errors rather than reflecting true variations.

22. (B) Warm colour
Certain colors have physical and psychological properties that influence how a space is perceived. Hues at the red and orange end of the spectrum are often described as having an advancing quality, which can make walls seem closer and the room feel more intimate or smaller. These vibrant tones attract the eye and stimulate the senses. In contrast, cool colors generally create an illusion of distance and spaciousness.

23. (D) Texture
In the field of visual art and design, a distinction is made between the basic tools and the rules for using them. Lines, shapes, colors, and textures are the actual components or elements used to create a work. Principles such as proportion, unity, and emphasis are the guidelines that dictate how those elements should be organized. Texture is a physical or visual surface quality, not a rule.

24. (A) 1 and 3
Securing funds for constructing or purchasing a home is a fundamental aspect of property development. This financial support is provided by a variety of institutions, including both government-backed agencies and private commercial banks. Access to such capital is essential for housing projects across all income levels. It enables individuals and developers to undertake large-scale construction that would be impossible to fund using only personal savings.

25. (C) Embodied energy
To understand the true environmental cost of a building material, one must consider every stage of its existence. This concept accounts for all the energy required for the extraction of raw resources, manufacturing, transportation, and eventual disposal. Measuring this total energy

carefully.

The relationship between housing and the environment is increasingly critical, with a strong focus on the life cycle of building materials and their ecological footprint. The selection of materials, from extraction and processing to installation and disposal, has a significant impact on the environment. In response, sustainable practices are encouraged through green rating systems, which are frameworks designed to assess and certify the environmental performance of a building. These systems evaluate various metrics, including material sustainability, water efficiency, and indoor environmental quality. A key component of green building is energy efficiency, which aims to reduce the energy required for a building's operation, particularly for heating, cooling, and lighting. The process of an energy audit is instrumental in achieving this; it involves a systematic inspection and analysis of energy flows to identify opportunities for energy savings. Beyond the building's structure, the quality of the indoor environment is paramount for occupant health and well-being. This is quantified using various indices of indoor comfort, which measure factors such as thermal comfort (temperature and humidity), air quality (presence of pollutants), visual comfort (lighting levels), and acoustic comfort (noise levels). Integrating these elements—sustainable materials, energy efficiency, and high indoor comfort—is central to the philosophy of modern, environmentally conscious housing design.

Based on the above source, attempt the following five questions.

271. What is the primary purpose of a green rating system as described in the passage?
(A) To determine the financial value of a building.
(B) To enforce a specific architectural style.
(C) To assess and certify the environmental performance of a building.
(D) To conduct an audit of the building's financial expenses.

272. An 'energy audit' is best defined as a process to:
(A) Install renewable energy sources in a building.
(B) Systematically identify potential areas for energy conservation.
(C) Measure the acoustic comfort levels inside a room.
(D) Calculate the green rating of a new construction.

273. Which of the following would be evaluated as part of the 'indices of indoor comfort'?
(A) The environmental impact of sourcing building materials.
(B) The efficiency of the building's solar panels.
(C) The building's proximity to public transportation.
(D) The temperature, humidity, and noise levels within a space.

274. The passage suggests that the environmental impact of building materials is a concern throughout which phase?
(A) Throughout their entire life cycle, from extraction to disposal.
(B) Only during the construction phase.
(C) Only during the building's operational phase.
(D) Only at the time of demolition and disposal.

275. A primary goal of designing for 'energy efficiency in buildings' is to:
(A) Increase the building's reliance on the electrical grid.
(B) Focus exclusively on improving visual comfort and lighting.
(C) Reduce the amount of energy consumed for operations like heating and cooling.
(D) Maximize the use of non-renewable building materials.

Direction : Please read the following source carefully.

Energy is a fundamental resource, categorized broadly by its origin and renewability. A primary distinction is made between conventional and non-conventional sources. Conventional sources, such as fossil fuels (coal, oil, natural gas) and large-scale hydropower, have been the mainstay of energy production for centuries but are often associated with significant environmental degradation. Non-conventional sources, including solar, wind, geothermal, and biomass energy, are generally newer technologies that offer a more sustainable alternative. A closely related classification is based on renewability. Renewable energy sources are

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ANSWERS

1. (B) Line
In the study of visual arts, certain foundational components serve as the building blocks for any artistic creation. These essential components include line, shape, form, color, value, texture, and space. A line is defined as a point moving through space and is the most basic element. While balance, rhythm, and harmony are important, they are classified as principles of design rather than fundamental elements.

2. (C) Statement I is true but Statement II is false.
Design principles serve as organizational guidelines that help artists and designers arrange the various elements of art to create effective compositions. These include concepts like balance, emphasis, and rhythm. However, composition refers specifically to the arrangement of elements according to these principles. The elements of art, such as line and color, are the actual components used, making them distinct from the guidelines governing their arrangement.

3. (C) Value
Value is a specific property of color that identifies its relative position on a scale from light to dark. This dimension is crucial for creating contrast, depth, and three-dimensional form within a visual composition. While hue defines the name of the color and intensity describes its purity or brightness, value focuses purely on luminosity. Darker values are often called shades, while lighter values are called tints.

4. (D) Circulation
In the context of housing and spatial organization, certain concepts guide the functional layout of a home. Movement through various rooms and spaces is a critical consideration known as circulation. This principle ensures that occupants can navigate the interior efficiently without disrupting the activities occurring in specific areas. It differs from zoning, which divides land, or anthropometry, which measures the human body for furniture design.

5. (C) Vernacular architecture
Building regulations are established rules that ensure safety, functionality, and proper land use within a community. Concepts like zoning, housing finance, and industry-standard norms are central to these legal and financial frameworks. In contrast, vernacular architecture refers to a style of building based on local needs, traditional materials, and regional traditions. While culturally significant, it is a design philosophy rather than a regulatory or administrative concept.

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6. (A) Both A and R are true and R is the correct explanation of A.
The construction industry has a major environmental footprint because the lifecycle of building materials involves extensive resource use. Extracting raw materials from the earth and processing them into usable products requires vast amounts of energy. Furthermore, manufacturing and transportation processes often release pollutants into the air and water. Consequently, the choice of materials directly determines the overall ecological impact and sustainability of any modern building project.

7. (D) Solar power
Non-conventional energy sources represent alternatives to traditional fossil fuels and are often derived from natural, replenishable processes. These include wind, geothermal, and solar energy, which are sustainable and have minimal environmental impact compared to fossil fuels. Coal, petroleum, and natural gas are considered conventional and non-renewable because they take millions of years to form. Utilizing solar power helps reduce dependence on these finite and polluting resources.

8. (A) Empathize
The design thinking process is a human-centered approach that prioritizes understanding user needs through specific stages. The initial phase involves deep observation and engagement to gain a profound understanding of the people for whom the product is being designed. By identifying their challenges and motivations,

hallmark of responsible and successful product design.

Based on the above source, attempt the following five questions.

281. Which of the following best describes the initial stage of the design thinking process mentioned in the passage?
(A) Empathizing with and understanding the user's needs.
(B) Prototyping a finished product.
(C) Defining the technical specifications.
(D) Launching the marketing campaign.

282. The theory of 'diffusion and innovation' is used to explain:
(A) The technical process of manufacturing a product.
(B) The rate and manner in which a new product is adopted by consumers.
(C) The communication methods used within a design team.
(D) The ergonomic principles of designing a safe product.

283. What is the primary role of 'ergonomic considerations' in product design?
(A) To determine the retail price of the product.
(B) To optimize the product for human comfort, safety, and efficiency.
(C) To select the colours and materials for the product.
(D) To ensure the product is aesthetically pleasing.

284. The passage suggests that 'design communication' is important for:
(A) Ensuring all stakeholders have a clear and common understanding of the design.
(B) Keeping the design process a secret from competitors.
(C) Persuading users to ignore a product's functional flaws.
(D) Complying with international advertising standards.

285. A designer creates multiple low-cost, functional models of a new chair to see how people interact with them. This action corresponds to which stage of the design thinking process?
(A) Empathize
(B) Define
(C) Prototype and Test
(D) Ideate

Direction : Please read the following source carefully.

Ergonomics is a scientific discipline of significant importance, concerned with understanding the interactions among humans and other elements of a system. Its scope is broad, aiming to optimize human well-being and overall system performance by designing systems, tasks, and environments that are compatible with human needs, abilities, and limitations. A cornerstone of ergonomics is anthropometry, which is the scientific study of the measurements and proportions of the human body. This data is crucial for designing everything from chairs to workstations. The core of ergonomics lies in analyzing the man-machine-environment relationship, ensuring that the design of machinery and the work environment complements the physiological and psychological attributes of the worker. Several factors can affect the physiological cost of work, including physical workload, posture, and repetitive motions. Ergonomics seeks to minimize this cost through principles of body mechanics, which promote efficient and safe movement patterns. This leads to the functional design of the workplace, arranging tools and equipment to reduce strain and unnecessary motion. To evaluate and improve workplace design, ergonomists employ methods like time and motion study, which analyzes work tasks to eliminate inefficiency, and energy studies, which measure the energy expenditure required to perform specific activities.

Based on the above source, attempt the following five questions.

286. What is the primary significance of ergonomics as described in the passage?
(A) To increase the complexity of machinery.
(B) To focus exclusively on the aesthetic design of the workplace.
(C) To reduce the number of employees required for a task.
(D) To optimize the relationship between humans and their work systems for better well-being and performance.

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287. The scientific measurement of human body dimensions for use in design is known as:
(A) Body mechanics
(B) Energy studies
(C) Anthropometry
(D) Time and motion study

288. The 'man-machine-environment relationship' is a central concept in ergonomics that focuses on:
(A) The historical evolution of machinery.
(B) Ensuring the compatibility between a worker, their tools, and their surroundings.
(C) The financial cost of industrial machinery.
(D) The environmental pollution caused by machines.

289. A manager studies the exact sequence of hand movements a worker uses to assemble a product in order to make the process faster and less strenuous. This is a direct application of:
(A) Anthropometry
(B) Energy studies
(C) Environmental design
(D) Time and motion study

290. According to the passage, the 'physiological cost of work' can be influenced by factors such as:
(A) The worker's posture and the physical demands of the task.
(B) The worker's salary and benefits.
(C) The company's stock market performance.
(D) The aesthetic appeal of the office decor.

Direction : Please read the following source carefully.

The design of furniture and furnishings is deeply intertwined with historical perspectives and prevailing architectural styles. Throughout history, furniture has often mirrored the dominant architectural movements; for example, the ornate and elaborate furniture of the Baroque period reflected the grandeur of its architecture, while the clean lines and geometric forms of the Bauhaus movement gave rise to minimalist and functional furniture. Understanding these historical precedents provides context for contemporary trends, which often reinterpret or react against past styles. Current trends may include a focus on sustainability, modularity, multi-functionality, and the integration of technology. Beyond large furniture pieces, the treatment of interior surfaces and apertures is critical. Wall finishes, for instance, have evolved from simple plaster and paint to a vast array of options including wallpapers, wood paneling, fabric coverings, and textured finishes, each contributing a distinct character to a space. Similarly, windows and their treatments are not merely functional but are key design elements. Window treatments serve multiple purposes: controlling light, providing privacy, offering insulation, and adding aesthetic value. Options range from hard treatments like blinds and shutters to soft treatments like curtains and drapes, with the choice depending on the room's function, the architectural style of the house, and the desired aesthetic.

Based on the above source, attempt the following five questions.

291. According to the passage, what is the relationship between historical furniture design and architectural styles?
(A) Furniture and architectural styles have always developed independently of each other.
(B) Architectural styles are based on pre-existing furniture designs.
(C) Furniture design has often been a reflection of the dominant architectural movements of the era.
(D) Historical furniture was purely functional, with no connection to artistic or architectural styles.

292. Which of the following is mentioned as a contemporary trend in furniture design?
(A) A preference for multi-functional and modular furniture.
(B) A focus on single-use, immovable pieces.
(C) An increase in ornate and purely decorative elements.
(D) A complete rejection of historical influences.

293. The passage categorizes window treatments into which two main types?
(A) Functional and decorative treatments.
(B) Historical and contemporary treatments.
(C) Interior and exterior treatments.
(D) Hard and soft treatments.

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294. Based on the source, which of the following is NOT listed as a primary function of window treatments?
(A) Controlling light
(B) Providing structural support to the window frame
(C) Providing privacy
(D) Adding aesthetic value

295. An interior designer choosing a minimalist, functional chair with clean geometric lines is likely drawing inspiration from which historical movement mentioned in the passage?
(A) The Baroque period
(B) The Victorian era
(C) The Bauhaus movement
(D) The Rococo style

Direction : Please read the following source carefully.

In the field of housing and interior design, research methods are essential for gathering objective data to inform design decisions and evaluate outcomes. The process begins with the careful selection and preparation of tools for data collection. Among the most common tools are questionnaires, which consist of a series of written questions used to gather information from a large number of respondents, and interviews, which involve direct verbal interaction to obtain in-depth qualitative insights. Observation is another powerful tool, where the researcher systematically watches and records behavior in a natural or controlled setting, such as observing how people use a public space. Once data is collected, it must be quantified and organized. This often involves the use of measuring scales. For instance, ranking scales require participants to order items based on preference or importance, while other measurement scales, like Likert scales, gauge attitudes or opinions on a spectrum (e.g., from 'strongly agree' to 'strongly disagree'). A critical aspect of tool development is ensuring its quality, which is assessed through reliability and validity. Reliability refers to the consistency and stability of a measurement tool—whether it produces the same results under consistent conditions. Validity, on the other hand, refers to the accuracy of the tool—whether it truly measures the concept it is intended to measure. Both are paramount for credible research.

Based on the above source, attempt the following five questions.

296. According to the passage, which data collection tool involves direct verbal interaction to gather in-depth information?
(A) Questionnaire
(B) Observation
(C) Ranking scale
(D) Interview

297. A researcher develops a survey to measure user satisfaction with office lighting. If the survey consistently produces the same results when given to the same group of people on two separate occasions, the survey is said to have high:
(A) Reliability
(B) Validity
(C) Observation
(D) Measurement

298. What is the primary function of a measuring scale, such as a Likert scale, in research?
(A) To observe user behavior without their knowledge.
(B) To quantify subjective data like attitudes and opinions.
(C) To ensure the research tool is aesthetically pleasing.
(D) To conduct in-depth interviews with a large group of people.

299. 'Validity' of a research tool refers to its:
(A) Consistency in producing results.
(B) Accuracy in measuring the intended concept.
(C) Popularity among researchers.
(D) Length and complexity.

300. A designer asks clients to arrange five fabric swatches in order from most preferred to least preferred. This is an example of using a:
(A) Ranking scale
(B) Questionnaire
(C) Interview protocol
(D) Naturalistic observation

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those that are naturally replenished on a human timescale, such as sunlight, wind, and rain. In contrast, non-renewable energy sources are finite and are depleted by use; these include fossil fuels and nuclear fuels like uranium. Given the finite nature of many resources and the environmental impact of their use, energy management has become a critical discipline. It involves the proactive and strategic planning and operation of energy production and consumption units to optimize resource use, reduce costs, and minimize environmental impact. On a larger scale, national efforts on energy conservation are crucial. These policies and programs aim to reduce the total demand for energy through improved efficiency, lifestyle changes, and the promotion of energy-saving technologies, contributing to both national energy security and global sustainability goals.

Based on the above source, attempt the following five questions.

276. According to the passage, which of the following is classified as a conventional energy source?
(A) Coal
(B) Solar power
(C) Wind energy
(D) Geothermal energy

277. What is the defining characteristic of a renewable energy source?
(A) It is a recently developed technology.
(B) It produces zero environmental pollution.
(C) It is more expensive than non-renewable sources.
(D) It is naturally replenished on a human timescale.

278. The concept of 'energy management' as described in the text primarily focuses on:
(A) Discovering new fossil fuel reserves.
(B) Strategically planning energy use to optimize efficiency and reduce impact.
(C) Increasing the global consumption of energy to fuel development.
(D) Exclusively promoting the use of non-conventional energy sources.

279. Based on the passage, what is a key difference between conventional and non-conventional energy sources?
(A) Conventional sources are always renewable, while non-conventional sources are non-renewable.
(B) Non-conventional sources like solar and wind are finite and will be depleted.
(C) Conventional sources are historically dominant but often have higher environmental impact than non-conventional sources.
(D) There is no significant difference; the terms are used interchangeably.

280. National efforts on energy conservation aim to achieve which of the following?
(A) To increase the country's dependence on imported fossil fuels.
(B) To encourage wasteful energy consumption to boost the economy.
(C) To exclusively fund research into non-renewable energy sources.
(D) To reduce the overall demand for energy through efficiency and policy.

Direction : Please read the following source carefully.

Product design is a complex creative endeavor that follows a structured methodology known as the design thinking process. This user-centric approach typically involves stages such as empathizing with users, defining their needs, ideating potential solutions, prototyping these solutions, and testing them to gather feedback for refinement. Once a product is developed, its success in the market is often explained by theories of diffusion and innovation, which describe how, why, and at what rate new ideas and technologies spread through cultures. Effective design communication is vital throughout this entire journey, from initial concept sketches to detailed technical drawings and final marketing materials, ensuring that the design intent is clearly understood by all stakeholders, including engineers, clients, and end-users. A critical component woven into this process is the application of ergonomic considerations. Ergonomics ensures that the product is designed for human use, optimizing for comfort, efficiency, and safety. This involves studying how a user interacts with the product and designing its form, controls, and interface to match human capabilities and limitations. Integrating ergonomic principles from the outset prevents user strain, enhances usability, and is a

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designers can create solutions that truly address real-world problems. This foundational stage is essential for establishing the context before brainstorming or prototyping.

9. (B) 1, 3, and 4
Ergonomics is a multidisciplinary field that focuses on optimizing the interactions between humans, the equipment they use, and their surrounding environment. It incorporates the study of anthropometry, which involves human body measurements, and body mechanics, which ensures safe movement. While it does analyze the physiological cost of work to prevent fatigue, it aims to enhance safety and efficiency. Therefore, understanding these components is vital for effective design.

10. (A) The measurement of the human body.
In the field of ergonomics, designing products and workspaces requires precise data regarding the physical dimensions of the target population. This study involves the systematic collection of measurements, such as height, reach, and limb length, to ensure that equipment is comfortable and safe. By applying these measurements, designers can accommodate a wide range of body types. This approach minimizes physical strain and improves the overall usability.

11. (D) Wallpaper
Internal wall treatments vary from permanent structures to decorative applications that enhance the aesthetic appeal of a room. Applying sheets of printed or patterned paper is a popular method for adding color, texture, and visual interest to vertical surfaces. Unlike stucco, which is a plaster finish, or paneling, which involves wooden boards, this specific decorative layer is easily applied and replaced, allowing for diverse interior design styles.

12. (B) Observation
Researchers employ various tools to collect data, depending on the nature of the study and the type of information required. One effective method involves the systematic monitoring of subjects in a specific setting to record their natural behaviors or occurrences as they happen. This technique provides direct evidence of actions without relying on self-reported data. It is particularly useful for understanding real-world interactions and environmental influences.

13. (C) Balance
Designing an interior space involves arranging visual elements to create a sense of equilibrium and stability. This principle concerns the distribution of visual weight across a composition, which is influenced by factors like color intensity, texture, and object size. When these components are balanced, the space feels comfortable and grounded. Lack of balance can make an environment feel unsettled, distracting the viewer from the intended aesthetic.

14. (D) A triadic scheme uses only two colours that are widely separated on the colour wheel.
Color schemes provide a framework for selecting harmonious palettes in design. A monochromatic scheme uses one color, while analogous schemes use adjacent hues. Complementary schemes pair opposites for high contrast. However, a triadic scheme involves selecting three colors that are equidistant from each other on the color wheel, forming an equilateral triangle. Using only two widely separated colors does not meet the structural definition of a triad.

15. (A) P-4, Q-2, R-3, S-1
Effective housing design relies on several planning principles to ensure functionality and comfort. Aspect involves the orientation of rooms to maximize natural light and air, while prospect refers to the visual connection to the outside environment. Circulation defines the movement paths between various interior spaces, ensuring efficient flow. Finally, grouping involves the logical placement of rooms in relation to each other, such as keeping kitchens near dining areas.

16. (B) To divide land into areas for specific uses like residential or commercial.
Local governments use specific legal tools to control the development and use of land within their jurisdictions. These regulations divide a city or town into distinct areas designated for particular purposes, such as residential, commercial, or industrial activities. This systematic organization helps prevent conflicting land uses and ensures that infrastructure can support the intended density. It is a fundamental part of urban planning and building safety.

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economic realities.

265. Which of the following best defines the principle of 'circulation' in space planning?
(A) The logical and efficient pathways for movement through a space.
(B) The arrangement of rooms based on function.
(C) The path of airflow and ventilation through the house.
(D) The positioning of the house relative to the sun.

Direction : Please read the following source carefully.

Building regulations form a critical legal framework designed to ensure the health, safety, and welfare of people in and around buildings. These regulations establish mandatory norms and standards for the design, construction, and alteration of structures. A key instrument within this framework is zoning, a method of urban planning where a municipality or other authority divides land into zones within which certain land uses are permitted or prohibited. For example, zoning ordinances may separate residential areas from industrial zones to protect inhabitants from noise and pollution. Beyond general application, specific housing norms are developed for special groups and areas. This includes designing accessible housing for persons with disabilities, creating age-friendly residences for the elderly, or adapting construction standards for disaster-prone areas like earthquake zones or coastal regions. The financial aspect of housing is addressed through housing finance, which encompasses the mechanisms and institutions that provide the necessary capital for individuals and developers to purchase or build homes. This can include mortgage loans from banks, government-backed loan schemes, and other financial instruments. The availability and accessibility of housing finance are crucial determinants of a population's ability to meet its housing needs in compliance with established building regulations and standards.

Based on the above source, attempt the following five questions.

266. What is the primary purpose of building regulations as described in the passage?
(A) To dictate the aesthetic style of all new constructions.
(B) To provide a legal framework for the health, safety, and welfare of building occupants.
(C) To ensure that construction is completed as quickly as possible.
(D) To control the market price of housing units.

267. The practice of designating specific areas of a city for residential use only is an example of:
(A) Housing finance
(B) Zoning
(C) Energy auditing
(D) Anthropometry

268. According to the passage, planning for 'special groups and areas' would most likely involve which of the following?
(A) Creating buildings with enhanced accessibility features for the elderly.
(B) Offering uniform housing designs for all income levels.
(C) Ignoring local climate conditions to standardize construction.
(D) Using only conventional, non-renewable energy sources.

269. How does 'housing finance' relate to building regulations and standards?
(A) It is a penalty system for those who do not comply with regulations.
(B) It is a set of rules that determines the final cost of a building.
(C) It is the system that provides the capital required to build homes that meet legal standards.
(D) It is a government body that enforces zoning laws.

270. Based on the passage, one can infer that zoning regulations primarily aim to:
(A) Promote mixed-use developments in all areas.
(B) Increase the density of industrial activities in urban centers.
(C) Subsidize the cost of land for residential developers.
(D) Ensure compatibility between different land uses and protect community welfare.

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consumption helps designers select materials that are less taxing on the planet. High values indicate a greater carbon footprint and a more significant overall ecological impact.

26. (A) Coal
Energy sources are categorized based on their historical usage and their ability to be replenished. Fossil fuels have been used extensively for decades and exist in limited quantities that cannot be replaced once consumed. Coal is a primary example of such a source, as it is a traditional fuel that takes millions of years to form. While widely available for now, its use contributes significantly to carbon emissions.

27. (D) Diffusion and innovation
The process by which new ideas, products, or technologies spread through a community over time follows a predictable pattern. This sociological phenomenon involves various groups of people adopting the innovation at different stages. Understanding how design concepts move from early adopters to the general public is crucial for successful marketing and implementation. This spread depends on effective communication channels and the perceived benefits of the new design.

28. (A) Both Statement I and Statement II are true.
Ergonomics encompasses various specialized studies to improve work efficiency and safety. One branch focuses on the movement of the body during tasks to prevent physical strain, while another analyzes the time required to complete specific motions. Together, these methods aim to simplify work processes and reduce the energy expended by the worker. Both approaches are essential for creating a productive work environment that protects human health.

29. (C) Drapes
Window treatments are selected based on their functionality and the aesthetic style of the room. Certain types of coverings consist of fabric panels that are designed to be pulled horizontally to the sides of the window. These treatments add softness to the interior and can be lined for better light control and insulation. They differ from vertical slats or single pieces of material that roll upward.

30. (D) Validity
The effectiveness of a research tool depends on its ability to truly measure the specific concept it was designed to evaluate. If the data collected accurately represents the underlying phenomenon without including irrelevant information, the tool is considered highly successful in this regard. This accuracy is a critical requirement for drawing correct conclusions from a study. It ensures that the findings are meaningful and relevant.

31. (B) P-3, Q-4, R-1, S-2
Visual artists utilize several basic elements to create their work and define the environment. Form represents three-dimensional objects with volume, while texture describes the physical or visual surface quality of an item. Space refers to the areas around and within objects, providing depth and perspective. Finally, value identifies the lightness or darkness of colors. Understanding these components is essential for organizing a composition and conveying specific messages.

32. (B) Calming and receding
Colors can have profound psychological effects on individuals and their perception of an environment. Hues like blue and green are often associated with the natural world and have a tranquilizing effect on the human mind. In interior design, these colors are known to create an illusion of distance, making walls seem further away. This quality helps small spaces feel more open and creates a peaceful atmosphere.

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33. (B) Aspect
Planning a house involves considering the orientation of various rooms to the path of the sun and prevailing winds. This principle ensures that living areas receive adequate natural light and that the building is properly ventilated throughout the year. For instance, placing a kitchen to receive morning sun can improve the environment for breakfast. This strategic alignment is vital for the thermal comfort and health of residents.

34. (A) Norms and standards
To protect the health and safety of the public, authorities establish specific requirements for the construction and maintenance of buildings. These rules cover essential systems

Societies have relied on certain energy sources for generations to power their industries and homes. These traditional sources, which include coal, oil, and natural gas, are often extracted from the earth and burned to generate heat or electricity. Because they have been the primary fuels used since the industrial revolution, they are well-established in global infrastructure. However, their use is associated with significant environmental challenges and finite supplies.

69. (C) Getting feedback from users on the prototype.
The final stage of a human-centered design process involves putting the developed models or prototypes into the hands of real users. This step is crucial for gathering honest feedback and identifying any remaining flaws in the design. By observing how people interact with the product and listening to their comments, designers can make final refinements. This ensuring the solution is effective and truly meets the users' needs.

70. (A) Both A and R are true and R is the correct explanation of A.
Protecting the physical health of workers involves teaching them the most efficient and safe ways to move their bodies during physical tasks. By using large muscle groups, like those in the legs, to perform heavy lifting, individuals can avoid excessive strain on the delicate structures of the spine. This approach is a core part of ergonomic training. It significantly reduces the likelihood of developing chronic pain or acute workplace injuries.

71. (D) Wall finishes
Designers choose from a variety of materials to cover the structural vertical surfaces of a room. These selections, which include specialized paint, decorative wallpaper, or wooden boards, define the color and texture of the walls. These choices are a fundamental part of interior design, as they create the backdrop for all other furnishings. The right selection can dramatically change the mood and perceived size of any interior space.

72. (A) Reliability
For any testing instrument to be considered a high-quality research tool, it must yield stable and predictable results over repeated use. If a test measures the same knowledge or skill consistently every time it is administered to the same group, it is highly dependable. This consistency is essential for researchers to trust the data and make accurate comparisons. Without it, the findings could be misleading or purely accidental.

73. (C) Proportion
In a successful composition, the sizes of the various elements must relate to each other in a way that is visually pleasing. This principle concerns the mathematical and visual relationship between parts of a whole or between different objects in a space. When these relationships are well-managed, the design feels balanced and harmonious. Incorrectly sized elements can make a space feel awkward, cluttered, or aesthetically disjointed.

74. (A) Intensity or Chroma
Color can be described using three specific dimensions: its name, its value, and its level of purity. The third dimension refers to how vivid or dull a color appears to be. A highly pure color is vivid and bright, while a color with low purity appears muted or grayish. This quality is essential for creating focal points and managing the overall energy levels within a visual design or room.

75. (D) Placing the main entrance so it does not open directly into the living room.
Creating a comfortable home environment requires protecting the inhabitants from unwanted observation. One effective way to achieve this is through the strategic placement of the main entrance and the layout of the rooms. For example, designing a hallway so that visitors cannot see directly into the primary living areas provides a sense of security. This physical separation is a key principle in maintaining a private household.

76. (B) Zoning
To manage the growth of a city effectively, planners use legal frameworks to designate how different sections of land can be used. This often involves creating boundaries between areas where people live and areas where heavy manufacturing occurs. By keeping industrial pollution and noise away from residential homes, these regulations protect the health and quality

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43. (D) Using locally available materials and simple designs
Constructing a home affordably requires careful planning and the selection of practical building methods. Using materials that are available in the local region reduces transportation costs and supports the regional economy. Furthermore, choosing simple, straightforward designs minimizes the need for specialized labor and complex structural components. These strategies allow for the creation of functional housing without exceeding a limited budget, making homeownership more accessible.

44. (B) Housing for special groups
Certain segments of the population have unique physical requirements that must be addressed through specialized design. The elderly and individuals with disabilities often need modifications such as ramps, wider doors, and accessible bathrooms to live independently and safely. Planning for these specific needs ensures that housing is inclusive and functional for everyone. This branch of design focuses on accessibility and enhancing the quality of life.

45. (C) Thermal comfort
The quality of an indoor environment is measured by various factors that contribute to the well-being of its occupants. One essential indicator is how the building maintains a comfortable range of temperature and humidity. This state of physical ease is vital for productivity and health. When a space is designed to achieve this balance, it reduces the need for excessive mechanical heating or cooling, enhancing sustainability.

46. (D) The process of systematically monitoring, controlling, and conserving building energy.
Systematic efforts to control and reduce energy consumption in a facility are essential for operational efficiency. This process involves the continuous monitoring and adjustment of systems like lighting and climate control to ensure they operate only when needed. By implementing conservation strategies, managers can significantly lower utility costs and environmental impact. It is a proactive approach that combines technical knowledge with organized oversight of resource use.

47. (A) Ergonomic considerations
When designers prioritize the physical requirements and comfort of the end-user, they apply specific scientific principles to their work. This involves ensuring that the size, shape, and layout of a product or space align with human dimensions and limitations. By focusing on these factors, the resulting design reduces the risk of injury and increases overall efficiency. It is a user-centered approach that enhances the daily experience.

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48. (B) Physiological Cost of Work: The purchase price of machinery
Professional fields related to work and design use specific terminology to describe their concepts. While anthropometry measures the body and body mechanics focuses on movement, other terms relate to the physical exertion required for a task. The physiological cost of work identifies the energy a human body spends, such as heart rate or oxygen use. It is unrelated to the monetary price of purchasing industrial equipment or tools.

49. (B) Minimalism, multi-functionality, and sustainability
Current styles in home decoration reflect a shift toward simpler living and environmental awareness. These modern approaches prioritize functionality and the use of furniture that can serve multiple purposes to save space. Sustainability is also a major focus, with an emphasis on durable materials and eco-friendly manufacturing. This departure from heavy, ornate styles creates cleaner environments that are easier to maintain in busy, modern lifestyles.

50. (A) Nominal scale
Measurement scales are used to organize data based on their properties. The most basic type involves grouping information into mutually exclusive categories that have no inherent mathematical order or ranking. This system is used for descriptive variables like gender, ethnicity, or color names. While it allows for counting the frequency of each category, it does not allow for making comparisons of “greater” or “less than” between them.

51. (C) Unity
Achieving a successful design requires all individual parts to function together as a cohesive whole. When various elements like color, shape,

as the colors used for interior walls or decorative furniture.

103. (D) The price of the property
Measuring how pleasant it is to stay inside a building involves evaluating several physical factors. These include the quality of the air, the amount of light available, and the level of background noise. When these variables are within a comfortable range, the environment supports health and productivity. Administrative factors, such as the monetary value or price of the property, are not related to these physical comfort indicators for the occupants.

104. (C) Statement I is true but Statement II is false.
Energy sources are classified by their origin and their sustainability. Sources that are derived from modern technology, like wind or solar, are often better for the environment. However, many traditional sources are non-renewable, meaning they cannot be replaced within a human timeframe once they are used. It is a common mistake to think that these finite resources replenish quickly. Therefore, transition to sustainable alternatives is necessary for long-term health.

105. (C) Clearly articulating the core problem they are trying to solve based on user insights
After gathering deep insights about the user's needs, a design team must focus on identifying the exact problem that needs to be solved. This stage involves synthesizing all the information collected to create a clear and actionable statement. By focusing the project's goals in this way, the team can ensure that their future brainstorming and prototyping efforts are directed toward a meaningful and relevant solution for the user.

106. (C) P-3, Q-2, R-4, S-1
Applying ergonomics involves several different specialized techniques. Measuring physical movements can help in teaching workers how to lift objects safely. Using body measurement data is essential for setting the standard heights of furniture like counters. Additionally, tracking the body's internal responses, like heart rate, identifies the physical cost of a task. Arranging tools within easy reach is a practical application of functional design. Together, these methods improve overall workplace safety.

107. (D) Understand the evolution of style and its relationship with culture and architecture.
Looking back at the historical development of furniture and decor allows designers to understand how styles have evolved alongside changes in technology and culture. This knowledge provides inspiration and helps in creating pieces that are both functional and historically relevant. By studying these trends, designers can appreciate the relationship between the architecture of a period and the objects inside it. This perspective is vital for creating meaningful and timeless designs.

108. (B) A direct verbal interaction between the researcher and the respondent.
Collecting qualitative data often involves a direct conversation between the researcher and the person being studied. This method allows the researcher to ask questions verbally and listen to the participant's detailed answers. Because it is an interactive process, it provides an opportunity to explore complex topics in depth and ask follow-up questions for clarity. This personal interaction can reveal deep insights that a simple written survey might miss entirely.

109. (A) Both A and R are true and R is the correct explanation of A.
The productivity of a worker is significantly influenced by how well their physical environment is suited to their needs. When a workspace is designed using ergonomic principles, it reduces the effort required to perform tasks. This leads to less physical tiredness and fewer mistakes, which naturally increases the amount of work that can be finished. A comfortable worker is a more efficient and effective worker, benefiting both the individual and the organization.

110. (B) 2 and 4
Visual artists and designers use several fundamental components to create their work and define the environment. These components include physical properties such as lines, shapes, colors, and textures. They are the actual materials that are organized into a composition. In contrast, principles like balance, unity, and rhythm are the rules or guidelines that tell the designer

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a single piece of material that can be raised or lowered to cover the glass.

60. (B) To place items in order of preference or importance.
When researchers need to understand the relative value or preference of several items, they use a specific type of scale. This tool requires participants to arrange items in a sequence based on their importance or desirability. While it does not measure the exact difference in quality between the items, it clearly shows which one is preferred over the others. This information is valuable for making design or marketing decisions.

61. (D) 1, 2, 3 and 4
Effective design is achieved by applying several fundamental guidelines to organize visual elements. Proportion and scale address the size relationships of objects to each other and to the human body. Emphasis is used to create a focal point that captures attention, while rhythm provides a sense of organized movement. Understanding these rules is essential for creating balanced and harmonious spaces that are both functional and visually appealing.

62. (D) Colours can influence mood and perception of space.
The way humans perceive and react to different hues is a critical consideration in design. Specific colors can evoke emotional responses and alter the perceived dimensions of a room. For instance, some shades may make a space feel more intimate, while others can make it appear larger and more open. These psychological effects are powerful tools for designers to influence the mood and functionality of an interior environment.

63. (A) Grouping
Efficient house planning requires the logical arrangement of various rooms based on their daily use. This principle involves placing related areas near each other, such as connecting the kitchen to the dining room for easier service. By organizing spaces according to their functions, designers can minimize unnecessary travel and improve the overall flow of the home. This strategic placement is essential for creating a comfortable and practical living environment.

64. (B) A sheltered courtyard or patio space.
Certain architectural layouts are chosen for the specific lifestyle benefits they offer. A design that forms three sides of a square or rectangle naturally creates a central open area that is protected from the wind and provides privacy. This layout allows for excellent natural light and ventilation in all the surrounding rooms. It is a popular choice for homes that prioritize a strong connection between indoor and outdoor spaces.

65. (B) Building luxury villas for high-income expatriates.
Socially responsible design often focuses on populations with specific needs, such as the elderly, people with disabilities, or those in disaster-prone areas. The goal is to provide safe, accessible, and functional environments for these groups. In contrast, the creation of high-end, luxury residences for wealthy individuals is driven by market demand and personal preference. Such projects do not fall under the specific category of planning for vulnerable or specialized groups.

66. (A) Indices of indoor comfort
Maintaining a comfortable interior environment is a primary goal of building design and operation. This involves monitoring several variables, including air temperature, humidity levels, and air movement, to ensure they remain within a range that is pleasant for humans. These factors collectively represent the comfort level of the indoor space. Achieving this balance is crucial for the health, productivity, and general satisfaction of the people inside.

67. (C) A scheme with light, cool colours like pale blue and soft green.
To make a small room feel more open and tranquil, designers often select specific color palettes. Lighter tones reflect more light, which helps walls appear to recede, creating a sense of increased space. Using cool hues like pale blue or soft green can also enhance this effect, as these colors are naturally calming. This combination is highly effective for creating a peaceful retreat that does not feel cramped or overwhelming.

68. (D) Energy sources that have been traditionally used for a long time, such as fossil fuels.

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can be seen through windows and doors. A good design will position rooms to overlook pleasant features like a garden or a natural landscape. This visual connection to the outside can significantly enhance the mood and well-being of the residents.

86. (B) It aims to increase efficiency, safety, and comfort by designing according to human capabilities.
Modern design prioritizes the harmony between people and the things they use daily. This field focuses on understanding human physical and mental limits to create products and workspaces that are safe and comfortable. By designing for human capabilities, it is possible to increase productivity while reducing the risk of injury. It is a critical science that ensures technology and environments serve humans effectively, rather than causing them stress.

87. (A) P-2, Q-4, R-1, S-3
Understanding building development requires knowledge of several key administrative and environmental tools. Zoning is used to divide land for specific functions, while housing finance provides the necessary loans for construction. To measure sustainability, green rating systems evaluate a building's overall environmental impact. Additionally, energy audits are conducted to assess power consumption and find savings. These concepts collectively ensure that buildings are organized, affordable, energy-efficient, and environmentally responsible.

88. (A)The rate at which the source can be replenished compared to the rate of consumption.
The classification of energy sources depends primarily on their ability to be naturally replaced. Some sources, like coal and oil, are finite and will eventually run out because they take millions of years to form. Other sources, such as sunlight and wind, are considered infinite because they are naturally replenished as quickly as they are used. This distinction is fundamental for planning a sustainable and secure future energy supply.

89. (C) Anthropometric data
To create a tool that is easy to hold and use, designers must have accurate information about the size and strength of the human hand. They use data gathered from measuring large groups of people to determine the best shape and size for handles and buttons. This ensures that the tool can be operated comfortably by most users. This scientific approach is essential for preventing hand strain and improving overall efficiency.

90. (D) A false but R is true.
In research, a tool can be consistent without being accurate. This means it might yield the same results repeatedly but still not measure the intended concept. In the specific context of this assertion and reason, while reliability is necessary for a tool's overall quality, it is a false but R is true that validity is not a prerequisite for obtaining consistent, or reliable, measurements from an instrument.

91. (B) 2 and 3
Design is organized using specific guidelines that dictate how visual elements should be arranged. Principles like balance, rhythm, emphasis, and proportion are used to create order and beauty in a composition. These are different from the actual components, such as line, shape, or color, which are known as the elements of art. By applying these principles, designers can create spaces that are functional, stable, and visually interesting.

92. (B) A square or nearly square plan
The shape of a building's footprint significantly affects the total cost of materials and labor. A layout that is square or nearly square provides the largest amount of interior floor space using the shortest length of external walls. Because there are fewer corners and less wall surface area to build and insulate, this type of plan is the most economical. It maximizes the efficiency of the construction budget and resources.

93. (C) Special groups (e.g., differently-abled).
Designing public buildings and homes requires considering the needs of all citizens, including those with physical limitations. Replacing stairs with gradual slopes allows people who use wheelchairs or walkers to enter and move through spaces independently. This approach to design ensures that the built environment is inclusive and accessible to everyone. It is a key part of planning for specialized groups who require specific modifications for safety and ease of movement.

94. (A) 4, 3, 2, 1

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of life for citizens. This systematic division of land is a fundamental urban planning tool.

77. (B) 2, 3, and 5
Building design must consider its environmental impact through various sustainability measures. Using green rating systems allows for the assessment of a building's ecological performance, including its energy use and material selection. Energy efficiency is a primary factor in this evaluation, as it reduces resource consumption. Additionally, systematic energy auditing helps find waste. These concepts are all interconnected in the effort to create more sustainable and comfortable indoor environments.

78. (D) To reduce overall energy demand and improve efficiency.
Governments often implement broad strategies to ensure that energy is used as efficiently as possible across the entire country. The primary objectives of these efforts are to lower the total demand for power and to eliminate wasteful practices in homes and industries. By improving efficiency, a nation can reduce its dependence on expensive imports and decrease environmental pollution. This contributes to long-term economic stability and a healthier planet for all.

79. (A) Creating an inexpensive, scaled-down version of the product to test.
During the development of a new product, it is necessary to create a simplified, physical model of the idea. This allows the design team to explore how the concept will work in the real world without spending a large amount of money. These models can be made from basic materials and are used to identify potential problems early in the process. It is a vital step for iterative improvement and testing.

80. (B) Improve efficiency and reduce fatigue by analyzing and simplifying task movements.
Improving workplace productivity often involves a detailed analysis of the physical actions required to complete a job. By timing each movement and identifying unnecessary steps, designers can simplify the work process. This reduction in wasted effort helps to minimize worker fatigue and prevents physical strain. The ultimate goal is to create a more efficient system that allows tasks to be finished faster and more safely.

81. (B) A modular sofa that can be reconfigured for different needs.
Modern furniture design often prioritizes versatility to accommodate the changing needs of today's lifestyles. A prime example is a seating system that can be easily moved and rearranged into different configurations. This flexibility is perfect for contemporary homes that often serve multiple purposes. Such designs reflect the current focus on practicality, efficiency, and adaptability. They contrast with the heavy, fixed furniture common in earlier historical periods.

82. (A) A standardized interview
When a researcher needs to collect data that can be easily compared across many participants, they use a highly controlled method. This involve following a fixed script where every person receives the same questions in the exact same sequence. This consistency reduces the influence of the researcher and ensures that variations in answers are due to the participants' views. It is an efficient way to gather structured information.

83. (C) Shape
Visual design is built from several basic components that define what we see. When a line closes and connects with itself, it creates an enclosed, two-dimensional area. These areas can be geometric, like a square, or organic, like a leaf. Understanding how to use these flat areas is essential for creating patterns and layout. They are distinct from three-dimensional forms, which also have depth, volume, and thickness.

84. (C) Statement I is true but Statement II is false.
Color relationships can be used to create specific visual effects in an interior. Pairing two hues that are located directly across from each other on the color wheel creates the maximum amount of contrast. This high-contrast approach makes each color appear more vibrant when placed side-by-side. While these combinations can be very exciting and energetic, they are definitely not considered subtle or low-contrast schemes in design.

85. (C) Prospect
When designing a house, it is important to consider the relationship between the interior spaces and the surrounding environment. This principle focuses on the quality of the view that

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such as electrical wiring, structural integrity, and plumbing to ensure they meet a minimum quality level. Following these established criteria is mandatory for all legal construction projects. They provide a baseline for performance and help prevent accidents or structural failures.

35. (A) Both A and R are true and R is the correct explanation of A.
Creating sustainable buildings requires a focus on reducing the amount of energy needed for daily operations. Buildings designed for efficiency use less power for climate control and artificial lighting, which directly lowers the demand on the national energy grid. This reduction is significant because many power plants rely on burning fossil fuels. Therefore, efficient building design is a primary strategy for mitigating environmental degradation and pollution.

36. (D) Wind
Sustainability in energy production relies on utilizing resources that are naturally replenished on a human timescale. Unlike fossil fuels or minerals like uranium, which exist in finite amounts, certain sources like sunlight and air movement are perpetually available. Harnessing the movement of air provides a clean way to generate electricity without releasing harmful emissions. This approach is essential for long-term environmental health and reducing global carbon footprints.

37. (C) Design communication
Transforming a concept into a physical product requires the clear exchange of information between designers and manufacturers. This process involves the creation of visual aids, such as technical drawings, digital models, and sketches, to explain exactly how a product should look and function. Effective sharing of these details ensures that the final result matches the original vision. It is a critical bridge between the creative and production phases.

38. (C) 1, 3, and 4
Ergonomics is the science of designing environments and products to suit human needs and capabilities. It involves creating functional workplaces and using anthropometric data to ensure that spaces are user-centric. By analyzing the relationship between the worker, their tasks, and the environment, designers can improve efficiency and safety while reducing physical strain. It is not merely about aesthetics but focuses on the practical usability of spaces.

39. (D) Architectural styles
The evolution of furniture design is deeply connected to the broader history of how buildings have been constructed and decorated over time. Each era's dominant structural and aesthetic preferences are reflected in the tables, chairs, and cabinets produced during that period. For instance, the ornate details of certain historical periods match the grand buildings of the time. This connection provides a rich context for understanding design.

40. (A) An open-ended question
In research, the way questions are phrased determines the type of data that can be collected. Some formats allow participants to express their thoughts and opinions freely in their own words, providing rich, qualitative information. These queries do not limit the respondent to a set of predefined choices. This approach is valuable for exploring complex attitudes and gathering detailed insights that structured options might miss.

41. (C) Movement
Visual compositions often utilize specific techniques to direct the viewer's attention through a piece of art. This principle creates a sense of flow or action, leading the eye along a deliberate path toward a focal point. It can be achieved through the repetition of shapes, the use of lines, or the placement of colors. By guiding the eye, designers can create a more engaging and dynamic experience.

42. (A) Triadic
Creating a balanced and vibrant color palette often involves using the structural relationships found on the color wheel. One specific scheme selects three hues that are evenly spaced, creating a strong sense of visual contrast while maintaining harmony. This approach offers more variety than a simple two-color pair. Because the colors are distributed equally around the wheel, the palette feels complete and visually stimulating to viewers.

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Preparing a high-quality research tool involves a specific sequence of logical steps. It begins with defining the goals and variables of the study. Next, the most appropriate type of tool, such as a questionnaire, is chosen. Before using it for actual data collection, the tool must be checked for accuracy and consistency. Finally, once its quality is confirmed, the tool can be used to gather information from participants.

95. (A) The interaction system where the human operator, the equipment used, and the surrounding conditions all affect performance.
Effective work systems depend on the complex interaction between three primary factors: the human worker, the tools or equipment being used, and the surrounding environment. Ergonomics focuses on analyzing how these components work together to ensure that the entire system is safe and efficient. If any part of this relationship is poorly designed, it can lead to errors, fatigue, and decreased productivity. Balancing these interactions is the core goal.

96. (B) Time and motion study
To improve the efficiency of daily tasks, such as cooking, designers analyze the physical steps required to move between key work areas. By timing these actions and identifying where extra effort is spent, it is possible to create a better layout. This scientific approach helps to minimize walking distances and reduce the physical effort needed. It is a vital tool for making any workspace more functional and less tiring for the user.

97. (B) The efficiency, safety, and comfort of the person performing the work.
A well-designed workspace prioritizes the needs of the person performing the work. This means organizing the tools, furniture, and lighting to make tasks as easy and safe as possible. When a workplace is designed with function in mind, it helps to reduce errors and prevent physical strain. This approach focuses on practical usability and user comfort rather than just the visual appearance or the cost of the office furniture.

98. (A) A set of printed or written questions with a choice of answers, devised for the purposes of a survey or statistical study.
Surveys and statistical studies often use a specific tool to gather information from a large group of people. This instrument consists of a structured set of written questions, often with several choices for each answer. Participants can fill it out on their own, making it an efficient way to collect data. This method is excellent for measuring public opinions, behaviors, and preferences across a wide and diverse population.

99. (C) Balance
Creating a sense of stability in a room or a work of art involves the careful distribution of visual weight. This principle ensures that no single part of the design feels too heavy or overwhelming compared to the rest. When elements like furniture, color, and texture are arranged to feel equal, the space feels grounded and peaceful. This visual equilibrium is essential for creating a comfortable and professional environment for everyone.

100. (D) Hue
Color is identified by several characteristics that describe its appearance. The specific name of a color, such as red, blue, or yellow, identifies its family or its place on the spectrum. This is the most basic way people recognize and talk about different colors. While other properties describe how light or how bright a color is, this fundamental label identifies its unique identity as a distinct part of the rainbow.

101. (C) Circulation
The efficiency of a house plan is measured by how easily people can move between different rooms. A good design creates clear paths that connect the entrance to the main living areas and bedrooms without forcing people to walk through private spaces. This movement within the building is a key planning principle. It ensures that the home is functional and that the daily activities of the residents are not unnecessarily interrupted.

102. (B) Dictating interior colour schemes
To ensure the welfare of the public, local governments establish rules that govern how buildings are designed and used. These regulations focus on critical factors like structural safety, fire protection, and how land is divided for different purposes. While they set high standards for the quality and safety of construction, they do not control personal aesthetic choices, such

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and line are used in a way that feels balanced and complete, the resulting composition has a sense of harmony. This principle ensures that no single part feels out of place or distracting. It creates a satisfying visual experience where every component supports the overall message.

52. (C) Statement I is true but Statement II is false.
Perception of visual environments is complex because different physical factors interact with each other. For instance, the specific light source in a room can change how a color appears to the human eye. Furthermore, the physical surface of an object, whether it is rough or smooth, influences how light is reflected and absorbed. Therefore, both lighting conditions and surface quality are critical considerations for achieving the desired aesthetic.

53. (A) 4, 2, 3, 1
Housing projects are often categorized based on the financial capacity of the intended residents to ensure appropriate pricing and design. These classifications range from those with the least financial resources to those with the highest. In a typical ascending hierarchy, the group representing the economically weakest members comes first, followed by low and middle-income segments. The high-income group, possessing the most resources, sits at the top of this scale.

54. (B) Housing finance
Access to credit is a vital component of the real estate and construction sectors. Specialized systems provide the necessary capital for individuals to purchase land or pay for building costs over an extended period. This financial assistance makes it possible for families to afford homes that would otherwise be beyond their reach. It is a cornerstone of modern housing development, supporting both individual homeowners and large-scale builders.

55. (D) Environmental performance and sustainability
To encourage more sustainable construction, certain organizations have developed comprehensive evaluation methods for buildings. These assessments look at several factors, including water conservation, indoor air quality, and energy efficiency. By measuring a building's overall environmental performance, these systems provide a clear indication of how "green" the project really is. High scores in these ratings can increase the value and prestige of a property while protecting the planet.

56. (A) Both A and R are true and R is the correct explanation of A.
Countries that prioritize resource efficiency often launch broad initiatives to reduce waste and protect the environment. Conserving energy is a major part of these efforts, as it decreases the need for new infrastructure and reduces harmful emissions from power plants. Additionally, saving power helps preserve a nation's financial resources and ensures long-term energy security. Such national programs are essential for achieving a sustainable and prosperous future.

57. (C) Generating a wide range of creative ideas and solutions.
After a problem has been clearly defined, designers move into a phase focused on expansive thinking and creativity. This stage encourages the generation of a vast number of potential solutions without immediate judgment or criticism. The goal is to explore as many different angles as possible, ranging from the practical to the highly innovative. This high volume of ideas provides a rich foundation for selecting the best path forward.

58. (A) The worker's salary and benefits
Evaluating the physical strain of a task involves measuring how the human body responds to exertion. This include tracking changes in heart rate, monitoring oxygen consumption, and calculating the calories burned during the activity. These metrics provide a clear picture of the physical demand placed on the worker. In contrast, the financial compensation or benefits received by the employee are administrative factors and do not measure physical cost.

59. (C) P-4, Q-2, R-1, S-3
Various types of window coverings are used to manage light and privacy in a home. Blinds are characterized by adjustable slats made of wood or plastic, while curtains are typically lighter, unlined fabric panels. Draperies refer to heavier, often lined panels that offer more insulation and formality. Finally, shades are composed of

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how to use these elements. Understanding this distinction is essential for design education.

111. (A) The use of colour and light
The way a person feels about the size of a room is not just determined by its physical measurements. Using specific colors and clever lighting techniques can create an illusion that makes a space feel much larger or more intimate than it actually is. For example, light colors reflect more light and help walls appear more distant. This psychological perception is a powerful tool for designers to manipulate the feeling of an interior space.

112. (B) The effect of spaciousness achieved through good proportion and furniture arrangement.
In the field of space planning, achieving a feeling of spaciousness is an important goal. This does not always require adding more square footage to a house. Instead, it can be created through the careful use of proportions and the strategic arrangement of furniture. When a room feels open and easy to move through, it has a high level of this specific quality. It enhances the overall comfort of the residents.

113. (B) Zoning regulations
Modern cities are organized into different sections to ensure that various activities do not interfere with each other. For example, noisy factories are placed far away from quiet residential homes and schools. This systematic planning is achieved through legal regulations that dictate how each piece of land can be used. This organization helps protect the safety and quality of life for all citizens by creating a more orderly and functional urban environment.

114. (A) 1 and 2
Housing development requires a specialized approach for different segments of the population based on their financial capacity. For lower-income groups, the focus is often on finding the most economical building methods and maximizing the use of limited space. These projects prioritize functionality and durability while keeping costs low. Understanding these varied needs is essential for urban planners and architects to create inclusive and sustainable communities that provide safe shelter for everyone.

115. (C) Energy efficiency in building design
Modern building design focuses on reducing the amount of power needed for heating, cooling, and lighting. This is achieved by using features like well-insulated walls and windows that allow for plenty of natural sunlight. When a building is designed this way, it is a prime example of energy efficiency in building design. This approach lowers utility costs and minimizes the overall environmental impact of the structure over time.

116. (D) Geothermal
Societies are increasingly turning toward energy sources that do not run out and have a lower environmental impact. Some of these are considered non-conventional because they have not been traditionally used on a large scale. Harnessing heat from deep within the earth is a prime example of this type of power. It is a sustainable and clean way to generate electricity that provides a reliable alternative to burning traditional fossil fuels.

117. (C) Diffusion
When a new product or idea is introduced, it spreads through a community over a period of time. This process depends on how the innovation is communicated and how people in the social system react to it. Some individuals are quick to try new things, while others wait until they see how others benefit. Understanding this spread is crucial for anyone trying to launch a new design and ensure it is widely accepted by the public.

118. (B) Anthropometry
Creating products and spaces that fit people well requires accurate data about the size and shape of the human body. This scientific study involves measuring various dimensions, such as height and reach, across different populations. By using this information, designers can ensure that chairs are the right height and that tools are easy to grasp. This approach is the foundation for making anything from office furniture to kitchen appliances comfortable and safe for use.

119. (D) Baroque
History is filled with various building and design styles that reflect the culture of their time. One particular era in Europe was famous for its highly emotional and dramatic designs, which included complex shapes and excessive decoration.

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forty. This allows for precise calculations and is essential for many kinds of research.

188. (B) Line, Rhythm
Design is composed of two different groups of ideas that work together. One group includes the actual parts you see, like lines and colors. The second group includes the rules for how those parts should be used, such as creating a sense of balance or movement. For example, repeating a simple line over and over can create a feeling of organized motion across a page or a wall. Understanding these connections is the first step toward becoming a designer.

189. (C) Light, cool colors and smooth surfaces.
A room that feels small and dark can be improved by making smart choices about color and texture. Using very light colors on the walls helps to reflect light around the space, which makes the room feel much brighter and more open. Additionally, picking smooth surfaces rather than rough ones can enhance this effect. These simple design tricks are very effective for creating a more comfortable and spacious environment in any type of home for everyone.

190. (D) It is a key indicator of economic activity and provides employment.
Housing is a major part of a country's success because it affects so many different people. Building new homes creates jobs for many workers and helps the economy grow. On a personal level, it provides a safe place for families to live and grow. Because of this, the housing market is often used as a sign of how well a nation is doing. Quality housing is essential for a healthy and prosperous society for everyone involved.

191. (A) Norms and standards
To ensure that our neighborhoods stay healthy and beautiful, local governments set rules for how much space a building can take up on a piece of land. These standards require that a certain part of the area must be left as open space for air and light. This helps to prevent overcrowding and ensures that everyone has access to a pleasant environment. Following these established criteria is a mandatory part of modern city planning and construction.

192. (B) They are only applicable to commercial buildings.
To encourage builders to protect the environment, specialized organizations have created systems that rate the sustainability of a project. These evaluations consider things like how much energy a building uses and how much water it saves. High scores in these systems are very valuable and can be used for any type of building, including homes and offices. They provide a clear way to show that a building is environmentally friendly and built to a high standard.

193. (B) Ignoring energy consumption patterns.
Controlling how much power a building uses is an important part of saving money and the environment. This involves keeping a close eye on consumption and finding where energy is being wasted. By using more efficient appliances and changing old habits, we can significantly reduce our impact on the planet. This proactive approach to using resources is essential for anyone who wants to live in a more sustainable and responsible way every day in their life.

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194. (D) Statement I is false but Statement II is true.
The process of creating new ideas for products is a very specific sequence of steps. It does not start with brainstorming solutions; instead, it begins with building a deep understanding of the people who will use the final design. By spending time with users first, designers can find the true problems that need to be solved. This foundation of empathy is the most important part of the entire process and ensures that the final result is truly useful.

195. (C) Deciding the height of a kitchen counter to suit the average user.
To make furniture and buildings that are comfortable for everyone, designers use scientific measurements of the human body. This data tells them things like how high a chair should be or how far a person can reach. For example, a kitchen counter should be built at a height that works well for the average person to prevent back pain. Using this physical information is essential for creating safe and functional spaces that work well for our daily lives.

196. (D) Designs that are currently popular and relevant to modern lifestyles.

of ergonomics. This involves arranging the tools and the layout to minimize awkward movements like excessive bending or reaching. By making the workplace more functional, the risk of injury is lowered and the speed of work can increase. This approach prioritizes human health and efficiency over the purely visual aspects of the design or the building.

129. (B) Classical architectural styles
Many of the foundational ideas in architecture and design come from the ancient civilizations of Europe. The styles developed in ancient Greece and Rome are famous for their focus on balance, symmetry, and grand proportions. These classical approaches have influenced building design for thousands of years and are still studied by architects today. They represent a significant historical perspective that helps us understand the evolution of the built environment and furniture styles.

130. (A) Ordinal
When researchers want to measure feelings or attitudes, they often use a scale where the answers are placed in a logical order. For example, asking someone to rate their happiness from very low to very high creates a clear sequence. While this shows which feeling is stronger, it doesn't measure the exact distance between the points. This type of scale is useful for understanding preferences and satisfaction levels in many different social studies.

131. (C) Rhythm
Visual designs can be made to feel more energetic by repeating specific elements like shapes, lines, or colors. This repetition creates a sense of organized movement that leads the eye across the work. Just like a beat in music, this principle provides a predictable pattern that helps to unify the composition. It is an essential tool for designers to create dynamic and interesting spaces that feel alive rather than static and boring.

132. (A) Both Statement I and Statement II are true.
The colors used in a room have a powerful impact on the emotions of the people inside. Vibrant hues like red and yellow are known for being very energetic and stimulating to the mind. On the other hand, colors found in nature, such as blue and green, are often used to create a peaceful and quiet environment. Understanding these psychological effects is a vital part of choosing the right palette for any interior design project.

133. (C) Flexibility
A high-quality house plan should consider how the needs of a family might change over time. Designing a home so that it can easily be modified or expanded without expensive structural work is a wise strategy. This principle allows the building to adapt to the future, whether it involves adding a new room or changing the use of a space. This foresight makes the house more valuable and useful for many years to come.

134. (A) Both A and R are true and R is the correct explanation of A.
Most people do not have enough cash saved to pay for the entire cost of a new home at once. Therefore, they must rely on systems that provide long-term loans and mortgages to cover these expenses. These financial services are critical for making homeownership possible for families from all walks of life. Without such support, only the very wealthy would be able to build or buy their own houses, which would limit overall social development.

135. (D) Cement
The production of certain construction materials is very energy-intensive and contributes significantly to global carbon emissions. For instance, the manufacturing of cement requires extremely high temperatures, which often comes from burning fossil fuels. Because it is used so widely in modern buildings, its environmental impact is quite large. Choosing alternative materials that require less energy to produce is a primary goal for architects and builders who want to practice sustainable construction.

136. (A) Renewable sources replenish themselves within a human lifespan.
The fundamental difference between energy sources is how quickly they can be replaced by nature. Sustainable sources, like wind and sunlight, are perpetually available and replenish themselves within a single human lifetime. In contrast, fossil fuels take millions of years to form, so they are gone forever once they are burned. Choosing sources that are naturally renewed is

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between these parts and the guidelines that govern their use in any creative work.

171. (D) Energy, passion, and excitement
Every color has a psychological impact that can influence how people feel when they are in a room. For example, vibrant hues at the warm end of the spectrum are often associated with high levels of energy and excitement. These colors can make a space feel more dynamic and stimulating. Designers use this knowledge to pick the right palette for different environments, depending on whether they want people to feel active or calm.

172. (B) Circulation
The way that people move through a building is a critical part of its overall design. Architects plan paths, hallways, and stairs to ensure that every room is easy to reach and that the movement is efficient. This organization helps to prevent crowding and ensures that the house or office is functional for daily life. A good layout for movement is essential for the safety and convenience of everyone who uses the building every day.

173. (C) Using oversized structural members and complex shapes.
Building a home on a limited budget requires careful planning and smart choices. One of the best ways to save money is to use a simple and compact layout that requires less material for walls and roofing. Additionally, picking materials that are found locally can significantly reduce the cost of transportation. These strategies help to keep construction costs low while still providing a safe and functional home for a family to live in.

174. (D) It is a broad field that applies to the design of everything from tools and workspaces to complex systems to improve human well-being and performance.
The science of ergonomics is very broad and applies to almost every part of our daily lives. It is not just about office chairs; it involves designing everything from small tools to complex systems so they fit human needs. The goal is to make sure that technology and environments are safe, comfortable, and efficient for everyone. This field plays a vital role in improving our health and overall performance at work.

175. (A) Both A and R are true and R is the correct explanation of A.
Designers must be aware that the size and shape of the human body can be very different depending on a person's age, gender, and where they are from. Because of these differences, it is important to use measurement data that matches the specific group of people who will use the final product. Using the wrong information could lead to a design that is uncomfortable or even unsafe. This careful approach ensures that products are inclusive.

176. (B) Paint
To protect and decorate the vertical structural parts of an interior, designers use various types of coverings. A very common method involves applying liquid layers that dry to create a durable and colorful surface. This choice is one of the first decisions made in interior design because it sets the background for all the other furniture and decorations. The right choice can make a room feel cleaner, brighter, or more stylish for everyone.

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177. (B) Reliability
If a research tool like a survey gives completely different results when it is used again on the same people under the same conditions, it has a serious problem. This lack of consistency means that the information collected cannot be trusted to show true facts. For a study to be successful, the tool must be dependable and produce stable results every time it is used. Without this, the entire research project will not be valid.

178. (A) Harmony
A successful interior design feels like a single, cohesive unit where all the individual parts are related to each other. This feeling is achieved when the colors, shapes, and textures work together perfectly. When everything in a space seems to belong together, the result is a balanced and peaceful environment. This sense of wholeness is a primary goal for any designer who wants to create a beautiful and professional space for everyone.

179. (C) Psychological effects
When choosing the right colors for a healthcare environment, it is important to think about how they will affect the patients. Certain colors can

recommendation is to replace single pieces of glass in windows with versions that have multiple layers. These advanced windows act as a barrier, keeping heat inside during the winter and out during the summer. This change significantly lowers utility bills and reduces the overall energy needed for climate control in the building.

146. (A) A national effort on energy conservation and renewable energy use.
Governments often take big steps to encourage the use of clean and sustainable power across the country. One common example is a policy that helps people install solar panels on their own roofs to generate electricity. This effort helps to reduce the national demand for traditional fossil fuels and lowers pollution. It is part of a broad strategy to protect the environment and ensure a more secure and sustainable future for the entire nation.

147. (C) Empathizing
The first part of a human-centered design project involves spending time with the people who will use the final product. By watching how they behave and talking to them about their experiences, designers can gain a deep understanding of their needs and frustrations. This stage is not about finding solutions yet; it is about gathering as much information as possible to build a strong foundation of knowledge. This personal connection is vital for creating truly useful designs.

148. (D) The posture and movements of the human body during activities.
Protecting the body from injury during physical work requires an understanding of how to move correctly. This field focuses on the best postures and actions for lifting, pushing, and pulling to avoid straining muscles or the spine. By using the body's natural strength efficiently, a person can do more work with less tiredness. This is a critical part of ergonomic training that helps keep workers healthy and safe throughout their professional lives.

149. (C) Architectural style : Contemporary trend
Interior design and architecture are filled with specialized terms that describe different aspects of a project. Some terms refer to the physical items like tables and chairs, while others describe the broader decorative style of a building or a room. It is also important to distinguish between styles from the past and current popular fashions. These categories help designers and their clients communicate clearly about the look and function they want to achieve in any project.

150. (B) Ratio scale
Measurement scales are chosen based on the type of information a researcher wants to collect. The most advanced type of scale has a true zero point, which means that a value of zero represents a total absence of the thing being measured. This allows for making precise comparisons, such as saying one object is twice as heavy as another. This type of data is common for physical measurements like weight, height, and time duration.

151. (D) The creation of a focal point through emphasis.
In the world of art and interior design, there is a clear difference between the basic parts used and the rules for organizing them. Lines, colors, and shapes are the parts, while principles like balance and emphasis are the rules. For example, a designer might use a bold color to create a focal point in a room. This specific technique for drawing attention to one area is a prime example of a design principle in action.

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152. (A) Scheme
Color can be analyzed by looking at three specific physical properties that describe how it appears to the eye. These include its name, its level of lightness or darkness, and how vivid or dull it looks. While these three dimensions help to define a color, a plan for how to use colors together is something else entirely. Such plans are used to create harmony in a room, but they are not a physical part of the color itself.

153. (A) 3, 1, 4, 2
Throughout history, building and design styles have evolved in a specific order as societies changed. Some of the earliest grand styles came from ancient civilizations, followed by a period known for its pointed arches and tall structures. Later, more ornate and dramatic styles became popular before the modern era emphasized simple lines and function. Understanding this chronological sequence helps designers see how

This style was used to show power and wealth through grand buildings and ornate furniture. It contrasts sharply with modern styles that prioritize simplicity and clean lines. It remains a significant part of the history of art.

120. (A) Interval scale
Measurement scales allow researchers to organize data in different ways. In one specific type of scale, the values have a logical order, and the distance between each point is equal and meaningful. This allows for precise comparisons. However, this scale does not have a true starting point or zero value. A common example is the measurement of temperature, where zero degrees does not mean a total absence of heat, but is just a point.

121. (C) Emphasis
To create a successful design, it is often necessary to draw the viewer's eye to a specific area of the composition. This principle involves making one element stand out more than the others, creating a focal point. This can be achieved through the use of bold colors, unique shapes, or a difference in size. By directing attention in this way, designers can communicate the most important part of their message or aesthetic plan.

122. (A) The amount and type of available light
The way a person perceives color in a room depends heavily on the surrounding conditions. One of the most important factors is the amount and the specific type of light that is present. For instance, natural sunlight and artificial light bulbs can make the same paint color look very different. Designers must carefully consider these variables to ensure that the chosen palette creates the desired mood and look in any given space.

123. (D) Physical shelter, security, and a base for social and psychological well-being.
Housing is a fundamental human requirement that goes beyond just providing a roof overhead. It offers a secure and stable environment where individuals can rest and find protection from the elements. Furthermore, a home serves as a base for social interaction and psychological health. It provides a sense of belonging and privacy that is essential for well-being. Therefore, access to quality housing is a critical factor for both individuals and the whole society.

124. (B) Structural resilience and safety features
Buildings in locations that are prone to natural disasters like earthquakes or coastal storms require a specialized approach to design. The primary focus for these areas is to ensure that the structure can withstand extreme conditions and keep the occupants safe. This involves using resilient materials and advanced engineering techniques. In these specific cases, safety and structural integrity are far more important than following the latest decorative trends or using the cheapest materials.

125. (A) 1, 2, 3, and 4
Improving the environmental performance of buildings involves several key steps. Energy efficiency aims to reduce total consumption, while energy auditing provides a systematic way to find where power is being wasted. By following the recommendations of an audit, building owners can save money and resources. These efforts are often rewarded by green rating systems, which certify sustainable buildings. These practices are relevant for all types of structures, including homes, in the fight against climate change.

126. (D) Their history and scale of use
Energy sources are often grouped by how long they have been used and the extent of the infrastructure that supports them. Traditional sources like coal and oil have been the primary fuels for centuries. In contrast, newer alternatives like solar and wind power are often called non-conventional. The main difference between these groups is their history and the scale at which they are currently used in the global economy.

127. (A) Mediate
The process of design thinking is a structured way to solve problems by focusing on the people who use the product. It involves five specific stages: building empathy, defining the problem, generating ideas, creating models, and testing them. While each of these steps is essential for innovation, the process does not include a stage for mediation. The focus is purely on understanding and solving the user's needs through creative and iterative design work.

128. (B) Functional design of workplace
Redesigning a factory or office to better suit the physical needs of the workers is a primary goal

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162. (A) The chair's size relative to the room and the people using it.
In design, the size of an object is always considered in relation to the things around it. For example, a chair must be the right size for the room it is in and also comfortable for the human who will sit in it. When these sizes match well, the design feels balanced. This relationship is a key part of creating a comfortable and functional interior where everything feels like it belongs.

163. (C) Analogous
Creating a peaceful and unified color palette often involves picking hues that are close together on the color wheel. For example, using different shades of blue and green creates a look that is often seen in nature. Because these colors share common tones, they blend together smoothly and do not create a lot of visual tension. This approach is excellent for creating a relaxing atmosphere in bedrooms or living areas.

164. (D) To provide housing that meets the specific physical and social needs of groups like the elderly or disabled.
Some people in our community, like the elderly or those with disabilities, have unique physical needs. Designing housing specifically for them involves adding features like ramps and wider doorways to make daily life easier and safer. The primary goal is to ensure that everyone has a home that is functional for their individual situation. This inclusive approach to planning helps to support independence and a high quality of life for all citizens.

165. (A) P-3, Q-4, R-1, S-2
Energy sources are classified by how traditional they are and whether they run out. Some, like coal, have been used for a long time and are finite. Others, like wind and sunlight, are newer alternatives and will never run out. There are also sources that have been used for decades, such as large water dams, that are sustainable. Understanding these different categories is essential for choosing the best way to power our world while protecting our future environment.

166. (B) Ergonomic considerations
To make an everyday item like a kettle truly effective, a designer must think about how a human will use it. This means making sure the handle is easy to grip and that it stays cool to the touch. The spout should also be designed to pour water smoothly without making a mess. By focusing on these practical details, the designer ensures that the product is safe, efficient, and pleasant to use for everyone.

167. (A) Both Statement I and Statement II are true.
Designing an effective office or workspace requires using scientific data about the sizes of the people who will work there. When furniture like desks and chairs are based on these measurements, they provide the best support and comfort. This approach helps to prevent physical problems like back pain and makes it easier for people to do their jobs well. A well-designed workspace is a vital part of keeping employees healthy and productive throughout their entire careers.

168. (A) Simplicity, clean lines, and the principle of "form follows function".
In the early to mid-20th century, a new style of design became popular that was very different from the ornate styles of the past. This movement focused on clean lines and the idea that the shape of an object should be based on its purpose. This simple and functional approach created furniture and buildings that were efficient and easy to use. It remains a major influence on the modern designs we see today.

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169. (C) reliability; validity
High-quality research depends on the strength of the tools used to collect information. Two critical factors are how consistent the tool is and how accurately it measures what it is supposed to. If a tool gives the same result every time, it is highly dependable. If it actually measures the correct thing, it is accurate. To be truly useful, any survey or test must be successful in both of these areas for the results.

170. (A) Form
Design is built on two foundations: the actual components used and the rules for arranging them. Elements like color, texture, and shape are the components. Principles like balance, harmony, and rhythm are the rules. A specific physical object has its own shape and volume, which is one of the basic components. It is important for students of design to distinguish

the past has shaped the environments we live in today.

154. (A) I-shaped (Linear) plan
House plans are categorized by their overall shape, which determines how the rooms are connected. One simple type of layout arranges all the rooms in a straight line along a single path. This design is often used for buildings on narrow pieces of land. It provides a straightforward way to move through the house, although it may offer less privacy than more complex shapes like those that wrap around a central outdoor space.

155. (A) Both A and R are true and R is the correct explanation of A.
Orderly growth in a city depends on clear rules that decide where different types of buildings can be constructed. By keeping industrial zones far away from the places where people live, planners can protect the health and safety of everyone. This organization helps to prevent problems like noise pollution and traffic in quiet neighborhoods. These regulations are a vital tool for local governments to ensure that a city develops in a way that is safe and pleasant.

156. (B) Prioritizing the use of locally sourced, renewable, and recyclable materials.
Reducing the environmental impact of construction requires making smart choices about the materials used. It is better to choose resources that are found locally to reduce the energy needed for transportation. Additionally, using materials that can be recycled or that are naturally replenished helps to protect the planet. This sustainable approach to building ensures that we do not use up finite resources and that we minimize the pollution created by our homes and offices.

157. (C) Implementing strategies for energy conservation and efficiency
Taking control of how power is used in a building is essential for saving money and protecting the environment. This process involves using systematic plans to monitor consumption and find ways to use less energy. By implementing these strategies, such as using better lighting or improving insulation, a facility can operate more efficiently. It is a proactive way to manage resources and is a critical part of modern building operations in every industry today.

158. (D) How a new product is adopted by different groups of consumers over time.
When a new design or technology is created, it does not become popular all at once. Instead, it spreads through society as different groups of people slowly start to use it. This process explains why some people are the first to buy new products while others wait much longer. Understanding this pattern of adoption is very useful for businesses that want to launch new items and ensure they are successful in the long run.

159. (A) 1, 2, 3, and 4
Ergonomics is a broad field that aims to improve the way humans interact with their environment. It uses body measurement data and an understanding of physical movement to create better workspaces and products. By focusing on the relationship between the worker and their tools, it helps to increase efficiency and safety. This science is essential for preventing injuries and making sure that technology is easy and comfortable for everyone to use every single day.

160. (B) Controlling light, providing privacy, and adding decoration.
Decorating windows involves more than just making them look beautiful. Specific coverings like blinds and shades are used to control the amount of light entering a room and to provide privacy for the people inside. They also help to insulate the glass, which can make the house more energy-efficient. These treatments come in many different styles and materials, allowing them to match the overall design of any room while serving their practical purposes.

161. (B) Observation
Researchers must be careful when they watch people to learn about their behavior. One potential problem is that the subjects might act differently because they know they are being observed. This can lead to data that does not represent how people naturally act when they are alone. To get the most accurate information, researchers often try to be as discreet as possible. This challenge is unique to studies that rely on direct monitoring of human interactions.

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help people feel more calm and peaceful, which is very important for healing. Other colors might feel too bright or stressful. By considering these psychological effects, designers can create a more supportive environment that helps patients feel better and supports the hard work of the medical staff every day.

180. (D) Sanitation
A well-planned home must include systems that protect the health of the residents. This involves making sure there is plenty of fresh air and natural light in every room. Additionally, the house must have a reliable way to get rid of waste and keep bathrooms clean. Following these basic rules for cleanliness and health is essential for preventing illness and making the home a safe and pleasant place to live for the whole family.

181. (B) P-2, Q-1, R-4, S-3
Researchers use several different tools and concepts to gather high-quality information. It is important that a tool is consistent and that it actually measures what it is supposed to. For example, a survey might be used to get answers from a large group, while direct monitoring can reveal how people naturally act. Understanding these different methods and the standards for their quality is essential for anyone who wants to conduct a professional and dependable research study.

182. (A) 1, 2, and 3
Building in locations that face natural dangers like floods or earthquakes is very challenging. It requires using special construction methods and materials that can withstand these forces. Because of this, the cost to build a house in these areas is often much higher. Additionally, it is vital to have systems that warn people about danger before it happens. These considerations are essential for keeping people safe and protecting property in these vulnerable areas.

183. (D) Energy efficiency is a significant component that is assessed within a comprehensive green rating system.
Evaluating the sustainability of a building involves looking at many different factors at the same time. While using energy efficiently is one of the most important parts, other things like saving water and using eco-friendly materials are also considered. A comprehensive rating system provides a complete picture of how a building affects the environment. Energy efficiency is always a major part of this score, but it is just one piece of a much larger and more complex puzzle.

184. (A) A human-centered, iterative approach to problem-solving and innovation.
Solving complex problems in a creative way often involves a structured process that puts the needs of the user first. This approach encourages designers to deeply understand people's problems before they start coming up with ideas. By creating simple models and testing them with real people, they can find the best solution through trial and error. This flexible and human-centered way of working is used to create innovative products and services that truly help people.

185. (C) Redesigning the task or workspace to reduce lifting and straining.
To protect workers from physical pain, it is important to look at the tasks they perform every day. If a job requires someone to move in a way that causes strain, the workspace should be changed. This might involve moving heavy objects closer or using a machine to help with lifting. By improving the design of the work, the risk of injury is lowered and the person can stay healthy and productive for a long time.

186. (A) Window treatments
Controlling light and privacy at a window can be done with many different types of products. Some are made of slats that can be tilted, while others are made of a single piece of fabric that folds up. These items are important for both the function and the style of a room. They help to make the home more comfortable and energy-efficient by adding a layer of protection to the glass in every window in the house.

187. (D) Interval
Measurement scales allow researchers to organize information into different categories. One specific type of scale is used for data where the order is important and the distance between each point is equal. A common example is measuring the heat of a room. On this scale, the difference between ten and twenty degrees is the same as the difference between thirty and

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essential for the long-term health of our planet and our energy security.

137. (C) Ensuring the product is safe, comfortable, and efficient for the user.
Designing a product that is truly useful requires focusing on more than just how it looks or how much it costs. Designers must ensure that the item is safe for the user and that it can be used comfortably for a long time. This involves considering human physical limits and capabilities. By prioritizing these factors, the resulting design will be more efficient and less likely to cause frustration or physical injury during daily use.

138. (A) The worker's heart rate and oxygen consumption.
To understand the physical effort required for a specific job, researchers measure how the worker's body reacts. They track metrics like the number of heartbeats per minute and the amount of oxygen the body uses during the task. These data points provide a scientific way to calculate the total energy spent. This information is vital for designing better workspaces that reduce exhaustion and protect the health of employees in busy industrial settings.

139. (B) P-3, Q-1, R-4, S-2
Architectural history is defined by a series of distinct styles, each with its own unique characteristics. For example, one style from the middle ages is famous for its pointed arches and tall structures. In contrast, the modern movement emphasized clean lines and the idea that the design should be based purely on the function of the building. Another era used bold geometric patterns to show glamour and wealth. Each of these styles reflects the culture of its time.

140. (B) Reliable and valid
For a research study to be successful, the tools used to gather information must meet two critical standards. First, they must provide the same results every time they are used, showing they are consistent. Second, they must accurately measure the specific thing the researcher is trying to study. If a tool fails in either area, the results will not be dependable and cannot be used to make professional or scientific decisions.

141. (A) Principles of composition
Arranging an interior space involves more than just choosing beautiful items; it requires organizing them to be functional. By placing furniture in a way that creates clear and unobstructed paths, designers help people move easily through a room. This use of elements to create order and flow is a key part of design. It ensures that the space is not just visually pleasing but also practical and comfortable for the people who live or work there.

142. (D) Monochromatic
Choosing a color palette for a room can be done in several systematic ways. One popular approach involves using different versions of just one color. By mixing in white to create lighter versions or black to create darker versions, a designer can create a cohesive and peaceful look. This strategy ensures that everything in the room feels related and harmonious. It is a simple but effective way to create a sophisticated interior environment.

143. (A) 1, 2, 3, 4, and 5
Planning a functional house requires following several key guidelines to ensure the comfort of the residents. These include orienting the building for sun and wind, creating pleasant views, and ensuring easy movement between rooms. Additionally, rooms must be logically grouped together and designed to provide enough privacy. Each of these factors is essential for creating a home that is healthy, safe, and efficient for the people who live there every day.

144. (B) Established rules and criteria for construction quality, safety, and performance.
To protect the safety and health of everyone in a community, authorities establish clear rules for how buildings must be constructed. These standards specify the quality of materials and the methods that must be used for plumbing, electrical work, and structural support. Following these established criteria is mandatory for all legal building projects. They ensure that every new structure is safe for people to live in and can withstand the forces of nature and daily use.

145. (B) Installing double or triple-pane windows.
Improving the efficiency of a building often involves making changes that reduce the amount of heat lost to the outside. A common

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Designs for homes and furniture are always changing as our lifestyles evolve. Current fashions often focus on pieces that are simple, versatile, and made from sustainable materials. These designs are popular because they fit well into modern lives that are often busy and require furniture to serve more than one purpose. Choosing these types of modern items helps to create an environment that is stylish, functional, and perfectly suited for today's world and its challenges.

197. (C) Compare the scores from the new scale with scores from an existing, well-established scale that measures the same concept.
When a researcher creates a new way to measure a concept, they must prove that it is accurate. One way to do this is by comparing their new tool with an older one that is already known to be good. If both tools give similar results, it shows that the new one is truly measuring the right thing. This process of verifying accuracy is vital for the success of any research project. It ensures that findings are meaningful.

198. (B) Principles of composition
Creating a beautiful and functional space involves following specific rules for how to organize visual elements. These guidelines help to ensure that all the different parts of a room, like the furniture and colors, work together as a single unit. When a design is unified in this way, it feels peaceful and complete. Understanding these rules is essential for any designer who wants to create an interior that is both professional and comfortable for people to live in.

199. (D) Bright primary colors like yellow, red, and blue
Choosing the right colors for a children's area in a hospital is very important for their well-being. Using very bright and cheerful colors like yellow and blue can help to create a fun and exciting environment. These colors are known to be stimulating and can help children feel more happy and less scared while they are in the hospital. By creating a lively atmosphere, designers can support the emotional health of young patients during their recovery and treatment.

200. (A) Cost-effectiveness, durability, and functional space.
Designing homes for families with limited financial resources requires focusing on what is most important. The primary goals are to keep the costs low while ensuring the building is durable and functional. This involves using simple designs and materials that do not need a lot of expensive maintenance. By prioritizing these practical factors, architects can create safe and comfortable housing that is affordable for many people. This approach is essential for providing quality shelter for everyone.

201. (A) Both A and R are true and R is the correct explanation of A.
The materials used to build a house have a big impact on how comfortable it feels inside. Some materials are very good at stopping heat from moving through walls, which helps to keep the house at a steady temperature. This is very important for making the home a pleasant place to live, regardless of the weather outside. By picking the right building materials, we can create more comfortable interiors and also save money on heating and cooling expenses.

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202. (B) 1, 2, and 3
A successful workplace is designed to support the person who is doing the job. This involves making sure that furniture can be adjusted to fit different people and that tools are placed in the most efficient layout. Additionally, having good lighting is essential for seeing tasks clearly and preventing eye strain. By focusing on these functional factors, we can create an office or factory that is safe, comfortable, and productive for every single employee who works there daily.

203. (D) Time and motion study
To make any task faster and less tiring, researchers study every physical movement that is required. By timing these actions and finding ways to eliminate unnecessary steps, the entire job can be simplified. This scientific approach helps to reduce the amount of energy a person spends while they work. It is a vital tool for improving efficiency in factories and even in our own homes, making daily chores much easier and faster for everyone in the house.

204. (B) Gothic
European history includes several famous styles of building that are still admired today. One very

271. (C) To assess and certify the environmental performance of a building.
Green rating systems are frameworks specifically designed to assess and certify the environmental performance of a building. They evaluate critical metrics such as material sustainability, water efficiency, and indoor environmental quality to determine a structure's ecological footprint. By providing a standardized certification, these systems encourage the adoption of sustainable practices in construction and promote environmentally conscious design.

272. (B) Systematically identify potential areas for energy conservation.
An energy audit is a systematic process used to inspect and analyze the energy flows within a building. Its primary goal is to identify specific opportunities for energy conservation and efficiency improvements. By understanding how energy is consumed for heating, cooling, and lighting, auditors can recommend strategic changes that reduce the building's operational energy requirements and lower environmental impact.

273. (D) The temperature, humidity, and noise levels within a space.
Indices of indoor comfort are used to quantify the quality of the internal environment by measuring factors such as temperature, humidity, and noise levels. These metrics help designers evaluate thermal, acoustic, and visual comfort within a space. Ensuring high levels across these indices is essential for protecting occupant health and well-being, as well as enhancing overall building functionality.

274. (A) Throughout their entire life cycle, from extraction to disposal.
The environmental impact of building materials is a significant concern throughout their entire life cycle. This includes every phase from the initial extraction and processing of raw materials to their installation and eventual disposal. Sustainable design practices emphasize the selection of materials that have a minimal ecological footprint throughout this journey, ensuring a responsible approach to construction waste management.

275. (C) Reduce the amount of energy consumed for operations like heating and cooling.
Designing for energy efficiency aims to reduce the total amount of energy required for a building's daily operations, particularly for heating and cooling systems. This goal is achieved through strategic architectural choices and energy-saving technologies. By lowering consumption, energy-efficient buildings decrease their environmental footprint and operational costs, contributing to both individual economic benefits and broader global sustainability goals.

276. (A) Coal
Conventional energy sources, such as coal, oil, and natural gas, are fossil fuels that have served as the primary means of energy production for a long time. While they are historically dominant and widely used, they are often associated with significant environmental degradation. These sources are categorized separately from non-conventional alternatives like solar power, which offer sustainable energy solutions.

277. (D) It is naturally replenished on a human timescale.
A renewable energy source is characterized by its ability to be naturally replenished on a human timescale. Examples include sunlight, wind, and rain, which are constantly available and do not deplete through use. This sustainability distinguishes renewable sources from non-renewable ones, like fossil fuels, which are finite and take millions of years to form, making them susceptible to depletion.

278. (B) Strategically planning energy use to optimize efficiency and reduce impact.
Energy management is a critical discipline that focuses on the proactive and strategic planning of energy production and consumption. The goal is to optimize resource use, reduce operational costs, and minimize environmental impact. By managing energy flows strategically on various scales, from individual buildings to large-scale units, organizations can improve efficiency and ensure long-term sustainability while meeting power requirements.

279. (C) Conventional sources are historically dominant but often have higher environmental impact than non-conventional sources.

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time and effort is required. By looking at these fundamental parts of work, designers can find better ways to organize a task. This helps to make the job easier and faster for the person who has to do it every single day at their workplace.

213. (A) Both Statement I and Statement II are true.
Current fashions in furniture often reflect a growing awareness of the environment. Many designers and shoppers now prioritize products that are made from sustainable materials and created using eco-friendly methods. This shift is happening because more people understand the impact that our choices have on the planet. By picking these types of modern items, we can create beautiful homes that are also responsible and support the long-term health of the world we all live in today.

214. (B) An in-depth, semi-structured interview.
When a researcher wants to get detailed information about a person's thoughts and experiences, they often have a long conversation with them. This method allows the participant to speak freely and provides the researcher with deep insights that a simple survey cannot capture. Because it is an interactive process, it is possible to ask follow-up questions and explore complex topics. This is a powerful tool for gathering high-quality, personal information from a small group of people in any study.

215. (D) The relationship in size between a part of the design and the whole.
In any successful design, the sizes of the different parts must work together in a way that looks right. This principle involves the relationship between the size of one element and the size of the entire object or room. When these relationships are well-managed, the space feels balanced and harmonious. If an object is too large or too small for its surroundings, it can make the whole design feel awkward. Understanding these size connections is essential for creating beautiful environments.

216. (A) P-3, Q-4, R-1, S-2
There are several systematic ways to choose colors that look good together. One approach uses versions of just one hue, while another uses colors that are neighbors on the color wheel. For more contrast, a designer might pick colors that are opposite each other. Another vibrant option is to pick three colors that are evenly spaced. Understanding these different color schemes provides a reliable framework for creating harmony and interest in any interior design or art project today.

217. (C) Aspect
Planning a healthy home requires thinking about how the sun moves throughout the day. By placing rooms like the kitchen and bedrooms in specific directions, designers can make sure they get the best light and stay at a comfortable temperature. This orientation to the outside world is a key principle of planning. It helps to ensure that the home is naturally bright and that it stays cool or warm during the right times of the year for the whole family.

218. (A) Housing for special groups.
Designing a home for someone who uses a wheelchair requires making specific changes to the layout. This includes making doors wider and removing any steps to ensure that they can move through every room independently. These types of modifications are essential for creating a space that is truly inclusive and safe. This specialized approach to planning focuses on the physical needs of specific groups in our community, ensuring that everyone has a home that works perfectly for them.

219. (A) 1, 2, and 3
To understand how a building material affects our planet, we must look at every part of its life. This includes measuring how much energy is needed to extract and manufacture it, as well as the pollution it creates. We also think about whether it can be recycled when the building is taken down. By considering all of these factors, designers can pick materials that are more sustainable and have a smaller overall impact on the environment over many years.

220. (B) Renewable
Some energy sources come from the natural world and will never run out, no matter how much we use them. Harnessing the power of the wind and the sun provides a clean and sustainable way to generate electricity. These alternatives are becoming more popular because they do not release the harmful emissions that

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253. (C) They represent the strategic application of design principles to organize the elements of art.
Principles of composition represent the strategic arrangement and structuring of visual elements within a finished design. By applying specific design guidelines to organize the basic artistic vocabulary, these principles create a cohesive whole. This overarching concept ensures that all visual components work together effectively to guide the viewer's eye, communicate specific messages, and evoke the desired responses.

254. (D) Emphasis
Emphasis is a design principle used to draw immediate attention to a specific focal point within a visual composition. By making one object significantly larger or brighter than its surrounding elements, a designer creates a point of interest that captures the viewer's gaze. This technique effectively uses contrast in size and brightness to highlight the most important area.

255. (C) An effective application of compositional principles.
Successful visual compositions result from the effective application of compositional principles, which manage the strategic arrangement of all visual elements. By using these principles to manipulate the basic components of art, designers can purposefully guide the viewer's gaze through a space. This structured approach ensures that the design communicates a clear intended message and evokes a specific response.

256. (B) Value
Value is a specific dimension of colour that describes the relative lightness or darkness of a hue. This attribute is adjusted through technical processes such as adding white to create a tint or black to create a shade. Understanding value is essential in design because it influences how various elements are perceived within a space and affects mood.

257. (D) A collection of blues and greens.
Cool colours, such as blues and greens, are frequently associated with psychological feelings of calmness and serenity, making them ideal for tranquil spaces like bedrooms. Additionally, these specific hues have the visual effect of making a room appear more expansive than its actual physical dimensions. This combination of effects helps designers create peaceful and open interior environments.

258. (A) Monochromatic
Monochromatic colour schemes are planned combinations that utilize various tints, shades, and intensities of a single hue. By focusing exclusively on one base colour, such as blue, a designer can create a highly cohesive and harmonious visual environment. This approach allows for subtle variation while maintaining a unified aesthetic throughout the space, relying on changes in value.

259. (C) They are synonymous terms describing the brightness or dullness of a colour.
Intensity and saturation are synonymous terms used to describe the specific dimension of colour related to its brightness or dullness. Also known as chroma, this attribute measures the purity of a hue. In design, understanding this dimension is vital because high-intensity colours appear vivid and energetic, while low-intensity colours appear more muted or neutral in the final composition.

260. (A) The historical origin of the colour pigment.
The final perception of a chosen colour in an interior space is influenced by factors such as lighting conditions, room size, and surface textures. However, the historical origin of a colour pigment is not mentioned as a factor that alters how a colour appears or is used within a space. Designers focus on environmental and physical variables instead.

261. (D) Zoning
Zoning is a fundamental principle of space planning that involves grouping rooms with similar functions together into distinct areas. By separating private zones, such as bedrooms, from public zones like living and dining areas, designers ensure privacy and organizational clarity. This strategic arrangement improves the overall functionality of the house and minimizes conflicts between different types of daily activities.

262. (B) Orientation
Orientation refers to the strategic placement of a building in relation to environmental factors like the sun and wind. By positioning a house to optimize natural light intake and manage

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essential for planning a successful construction project and ensuring that the money is available.

229. (D) 1, 2, 3, and 4
Creating sustainable and comfortable buildings involves several interconnected ideas. Using energy efficiently helps to save resources, and conducting systematic audits provides a way to find where power is being wasted. Additionally, a building's energy performance has a direct impact on how comfortable it feels for the people inside. Many evaluation systems reward buildings that achieve high standards in these areas. All of these concepts are essential for anyone who wants to build or manage a more environmentally responsible structure.

230. (B) The measurement of human energy expenditure during work.
In the science of ergonomics, it is important to understand how much energy a person uses when they are performing a task. This involve measuring things like the calories burned or the amount of oxygen the body consumes during work. By studying these physical responses, designers can identify jobs that are too exhausting and find better ways to organize the work. This focus on human energy expenditure is vital for protecting health and increasing productivity in any professional work environment.

231. (D) Ceiling finish/treatment
To decorate the upper surfaces of a room, designers often use specialized materials and techniques. For example, a type of plaster can be used to create beautiful patterns or smooth surfaces on the ceiling. This choice is an important part of interior design because it helps to define the overall style and height of the room. A well-designed ceiling can make a space feel more grand and professional for the people who live or work there every day.

232. (A) Interview
Collecting detailed information from individuals often involve having a direct, face-to-face conversation. This method is very effective because it allows the researcher to ask follow-up questions if an answer is not clear. Because it is an interactive process, it can reveal much deeper insights than a simple written survey. This personal approach is a powerful tool for gathering high-quality data in many different types of social and design research studies conducted by professionals today.

233. (C) Texture
Design is built from several basic components that appeal to our different senses. One specific element describes the physical quality of a surface that we can either see or feel with our hands. A surface might be rough, smooth, soft, or hard. Understanding how to use these different qualities is essential for creating interest and comfort in a room. This tactile element adds depth and a sense of realism to any interior design or art project in any environment.

234. (A) The provision for light, ventilation, and disposal of waste and sewage.
Planning a safe and healthy home requires following specific rules for light and air. This principle involves making sure every room has good ventilation and that there is a reliable way to get rid of waste. Additionally, the bathroom and kitchen must be designed to be easy to keep clean. Following these basic rules for health is essential for preventing illness and making sure the home is a pleasant place to live for everyone in the whole family.

235. (D) The shape and size, ensuring it fits the hand comfortably and reduces strain.
To make a product truly useful, a designer must focus on more than just its visual appearance. For an item like a computer mouse, it is essential that the shape and size fit the human hand perfectly. This helps to reduce strain and prevents injury during long hours of use. By prioritizing these factors, the designer ensures that the product is comfortable, safe, and efficient for everyone who uses it every day during their work or hobby.

236. (B) Measure what it is intended to measure.
For any tool used in research to be considered successful, it must be accurate. This means that the tool must truly measure the specific concept it was designed to evaluate. If the information collected is not relevant to the goal of the study, the tool is not successful. This quality is essential for making sure that the findings of a research project are meaningful and can be trusted by others to make professional and scientific decisions.

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come from traditional fossil fuels. Choosing these renewable sources is a critical step toward protecting the health of our planet and ensuring we have enough power.

221. (C) Act as a tangible artifact that can be tested and used to gather feedback.
During the process of creating a new product, it is very helpful to make a physical model of the idea. This simple and inexpensive version of the design can be held and used to see how it works in the real world. By showing this model to potential users, designers can get valuable feedback and find any problems early. This is an essential step for improving an idea before spending money on the final version of the product for production.

222. (D) Both A and R are false.
To ensure that equipment is safe and easy to use, the controls must be designed with the user in mind. If buttons and levers are confusing, it is much more likely that a person will make a mistake. This can lead to accidents and lower productivity. Good design prioritizes clarity and simplicity to ensure that machines are operated correctly. Both of the statements provided about confusing controls are incorrect because they ignore the primary goal of human safety in engineering.

223. (A) Draperies are generally heavier, lined, and more formal than curtains.
Choosing the right window coverings involves thinking about both the style and the function of the room. Some options are made of lighter fabrics and are generally more casual. Other versions are made from much heavier materials and often have a second layer for insulation. These heavier panels are usually more formal and are excellent for blocking out light and keeping a room quiet. Understanding these differences helps to pick the best treatment for any window in the entire house.

224. (B) Ranking
Researchers often need to know what people prefer when they are given several different choices. A common tool for this is to ask people to put a list of items in order from their favorite to their least favorite. This shows the relative importance or desirability of each item. While it does not give exact measurements, it is a very effective way to understand public opinions and trends. This information is valuable for making design and marketing decisions for products.

225. (B) All the elements and principles work together to create a sense of belonging and wholeness.
A successful interior design is achieved when every individual part of the room feels like it belongs with all the others. This happens when the colors, shapes, and textures work together as a single, cohesive unit. When this feeling of wholeness is present, the space feels balanced and peaceful. Achieving this sense of belonging is a primary goal for any designer. It ensures that the room is not just a collection of separate items, but a beautiful and unified environment.

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226. (A) The physiological cost of work
To measure how much physical effort a job requires, researchers can track how a person's body reacts during the task. For example, if someone's heart beats much faster while they are working, it shows that the task is putting a lot of strain on their system. This scientific approach helps to identify jobs that are too tiring or even dangerous. This information is vital for redesigning tasks to protect the health and safety of workers in every industry today.

227. (C) To have a simple, rectangular, or square house plan.
Building an affordable home requires making smart choices from the very beginning of the project. One of the best strategies is to use a simple, square, or rectangular shape for the house. This layout requires less material for the walls and roofing, which keeps costs low. Additionally, simple shapes are easier and faster to build. These principles of economy help to make sure that a house is functional and safe without going over a limited budget for the family.

228. (A) 1, 3, 2, 4
Families use many different ways to pay for a new home, ranging from formal systems to personal ones. The most formal methods involve getting a long-term loan from a major bank or a specialized institution. Less formal options include borrowing money from local groups or from friends and family members. Some people also use their own personal savings to cover the costs. Understanding these different options is

245. (C) Create a focal point, such as a fireplace or a piece of art.
In any room, it is often helpful to have one specific area that captures the viewer's attention more than any other. This principle involves making one element stand out, such as a fireplace or a large piece of art. By creating this focal point, designers can organize the whole space around it and communicate a clear message. This helps to make the interior more interesting and organized. It is a powerful tool for creating a successful and balanced design.

246. (B) Understand how to market and spread the adoption of its new smart home device.
When a company creates a new design or technology, it is important to understand how it will become popular over time. This process explains how a new idea moves through society as different people start to adopt it. This is a very useful way to plan the marketing for a new product, like a smart home device. By understanding this pattern, businesses can ensure that their innovation is successful and reaches as many people as possible in the long run.

247. (D) The worker's performance, safety, and comfort.
The primary goal of designing a functional workspace is to support the person who is doing the job. This involve making sure the furniture, tools, and layout are safe, comfortable, and efficient. When a workplace is designed with these goals in mind, it helps the worker to perform better and prevents physical strain. This approach prioritizes human performance and health over the purely visual aspects of the design. A well-designed workspace is essential for a productive and healthy environment.

248. (B) P-4, Q-2, R-1, S-3
Professional fields related to design and human behavior use many specialized terms. Some involve the measurement of the human body, while others focus on the entire process of creative problem-solving. Additionally, it is important to understand how new ideas spread through a community and the broad science of designing for human use. Learning these different concepts and their definitions is essential for anyone who wants to work in design. These tools help to create products and spaces.

249. (C) A set of vertical blinds
Controlling light and privacy at a window is an essential part of interior design. There are many different products that can be used for this, such as vertical slats that can be tilted or fabric panels that can be drawn. These items help to make the home more comfortable and can also add to the style of a room. Choosing the right one is a key part of making any interior functional and beautiful for the people living inside.

250. (A) A series of in-depth interviews and observations.
To truly understand the daily lives of people in a community, researchers often use personal methods of collecting information. This involves having in-depth conversations and directly monitoring the environment and the behaviors of the people who live there. This personal approach provides deep insights that a simple survey might miss. It is a powerful way to learn about the lived experiences of families and to find ways to improve their housing and overall quality of life today.

251. (B) Elements are the basic components used in a design, while principles are the guidelines for arranging them.
Elements of art represent the foundational vocabulary or tangible components that creators utilize to build visual works. In contrast, principles of design function as the grammatical rules or organizational guidelines used to arrange these elements effectively. This distinction ensures that artistic components are structured logically to create cohesive and aesthetically pleasing finished compositions within various design fields.

252. (A) The rules of grammar.
The analogy of language effectively clarifies design fundamentals by comparing artistic elements to vocabulary and design principles to grammar. Rules of grammar dictate how words are organized into coherent sentences, just as design principles govern the arrangement of visual elements. This structured framework ensures that the final visual composition communicates a clear message and achieves specific goals.

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popular style from the late Middle Ages is known for its tall, dramatic structures and its use of pointed arches. This approach to design allowed buildings to be much taller and to have larger windows than ever before. These grand churches and public buildings reflect the deep religious and cultural values of the time. They remain a very important part of architecture.

205. (C) Reliable and valid
For any tool used in research to be considered high quality, it must meet two essential standards. It must give the same results every time it is used, and it must accurately measure the specific thing the researcher is interested in. When a tool is both consistent and accurate, it is a powerful way to collect information. This ensures that the results of the study are dependable and can be used to make important decisions in any professional field.

206. (D) Hue, value, and intensity
Every color can be described by looking at three specific physical properties. First is its name, which identifies its family. Second is its value, which tells us how light or dark the color appears. Third is its intensity, which describes how vivid or dull the hue looks. Together, these three dimensions help us to understand and talk about color in a precise way. They are the building blocks for choosing the right palette for any design project.

207. (A) A U-shaped or H-shaped plan.
Choosing the right shape for a house can help it to be more comfortable and private. Some designs are built in a way that wraps around a central outdoor area, which provides a sheltered space for the family to enjoy. This layout also makes it easier for fresh air to move through the house and provides plenty of natural light for every room. These shapes are a popular choice for homes that want to connect the inside with the outside.

208. (B) Provide funds to individuals or developers for housing projects.
Building or buying a house is a major expense that most people cannot afford all at once. Because of this, specialized institutions exist to provide the long-term loans that families and developers need to cover these costs. These financial services are critical for the growth of the housing market and help more people achieve the dream of homeownership. Without this support, many construction projects would be impossible to finish, and many families would not have a secure home.

209. (B) The acoustic quality and background noise level.
A comfortable indoor environment is created by several different factors working together. One important part is the level of noise and how sound travels through the building. If a space is too loud or has too many echoes, it can be very stressful for the people inside. Designing for good acoustics helps to create a peaceful environment that supports productivity and rest. This is a key indicator of quality for any modern home or office building today.

210. (A) Installing smart thermostats and using energy-efficient LED bulbs.
Taking control of the energy used in our homes is a great way to save money and help the planet. Simple steps, like using more efficient light bulbs and installing a thermostat that can be programmed, can make a big difference. These changes help to ensure that we only use power when we really need it. This proactive approach to using resources is an essential part of modern life and contributes to a more sustainable future for everyone in society.

211. (C) To convey the design idea clearly to stakeholders like engineers, marketers, and clients.
To turn a new design idea into a real product, it is necessary to share information clearly with many different people. This process involves creating models and drawings that explain exactly how the product should look and function. When everyone involved, from the engineers to the clients, understands the design perfectly, the project is much more likely to be successful. This clear exchange of information is a vital bridge between the initial creative thought and the final finished product.

212. (D) Therbligs
When researchers study how a job is done, they break the task down into the most basic physical actions. Each of these small movements has its own name and is used to analyze how much

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ventilation, designers enhance the interior environment's comfort and energy efficiency. This principle ensures that spaces receive morning sunlight while avoiding the harsh heat associated with direct afternoon sun.

263. (C) Reducing costs through strategic choices in layout and materials.
Achieving economy in construction involves making strategic choices regarding materials, techniques, and layout to reduce overall costs. This approach focuses on optimizing resources without compromising the structural integrity or livability of the building. It is a critical consideration in modern housing design, ensuring that dwellings remain affordable while still meeting the functional and safety requirements for occupants.

264. (D) The application of design principles and material choices are adapted to fit different economic realities.
Planning for different income groups requires designers to adapt the application of design principles and material choices to fit specific economic realities. While foundational concepts remain relevant, the execution varies based on budget constraints. For lower-income groups, simple forms and local materials are prioritized, whereas higher-income housing might include complex layouts and higher-end finishes while considering efficiency.

265. (A) The logical and efficient pathways for movement through a space.
Circulation is a core principle in space planning that dictates the logical and efficient pathways for movement within and between various areas of a building. It focuses on how people navigate through a space, ensuring that flow is unobstructed and intuitive. Effective circulation design enhances the functionality of a home by connecting different zones without wasted travel.

266. (B) To provide a legal framework for the health, safety, and welfare of building occupants.
Building regulations serve as a critical legal framework established to protect the health, safety, and general welfare of individuals within and around structures. These regulations provide mandatory norms for the design, construction, and alteration of buildings. By following these established standards, developers and architects ensure that the built environment is safe for occupancy and meets quality requirements.

267. (B) Zoning
Zoning is a common urban planning method where municipalities divide land into specific areas to control land use. By designating certain zones for residential purposes only, authorities can protect inhabitants from the noise, pollution, and traffic associated with industrial activities. This practice ensures that different land uses are compatible and contributes to the overall safety and welfare of community.

268. (A) Creating buildings with enhanced accessibility features for the elderly.
Planning for special groups involves creating housing that addresses specific needs, such as enhanced accessibility features for the elderly or persons with disabilities. These specialized norms ensure that vulnerable populations can live safely and comfortably. Such considerations go beyond standard building practices to incorporate age-friendly designs or specific construction standards required for disaster-prone areas, reflecting a commitment to resilience.

269. (C) It is the system that provides the capital required to build homes that meet legal standards.
Housing finance encompasses the institutions and financial mechanisms, such as mortgage loans and government schemes, that provide the capital necessary for purchasing or building homes. This system is closely linked to building regulations because it enables individuals to fund construction that meets mandatory health and safety standards. Without accessible finance, many would struggle to afford compliant housing.

270. (D) Ensure compatibility between different land uses and protect community welfare.
Zoning regulations are primarily designed to ensure compatibility between different land uses and to protect the general welfare of a community. By separating incompatible activities, such as housing and heavy industry, these ordinances minimize environmental disturbances like noise and pollution. This structured approach to urban development helps maintain the quality of life for residents and promotes organized city growth.

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237. (C) Movement or Rhythm
A successful design often includes elements that lead the eye from one part of the composition to another in a deliberate way. This principle creates a sense of flow and action, making the work feel dynamic rather than static. It can be achieved by repeating shapes or using lines to create a path for the eye to follow. By organizing the design in this way, artists can create a more engaging and interesting experience for the observer.

238. (C) Statement I is true but Statement II is false.
Color can be described using three physical properties: its name, its value, and its intensity. While these physical facts are universal, the way people feel about different colors can be very different. These psychological effects are often shaped by a person's culture and their own personal experiences. Because of this, designers must be very careful when choosing a palette for an international audience. Understanding these varied reactions is a key part of successful design for everyone in society.

239. (A) Assess and certify the environmental performance of a building.
Specialized organizations have created systems that evaluate and certify how environmentally friendly a building truly is. These tools look at many different factors, including energy efficiency, water saving, and the types of materials used in construction. A high rating from one of these systems is very valuable and shows that a building was designed and built to a high standard of sustainability. This helps to protect the planet and also increases the property's market value over time.

240. (B) Zoning regulations
Getting the money needed to build a new home is an essential part of the construction process. Many people rely on loans from commercial banks or from companies that specialize in housing loans. Some also use their own personal savings to pay for the costs. While there are many systems to help with the money, the legal rules for how land is used are not part of this financial system. These rules are for urban planning instead for communities.

241. (B) Man, machine, environment: An interaction model for analyzing work systems.
Successful work systems depend on the complex interaction between three primary factors: the human worker, the tools or machine being used, and the surrounding environment. This model is used to analyze how people perform tasks and to find ways to make them safer and more efficient. By focusing on these relationships, designers can create better workspaces that reduce fatigue and prevent injuries. This balanced approach is the core of modern ergonomic design and is used in industries everywhere.

242. (A) Design communication
Turning a creative idea into a physical product requires the clear exchange of information between different teams. Designers often use computer programs to create detailed 3D models that show exactly how the final product will look. These visuals are a powerful tool for explaining an idea to clients and engineers. By sharing these details, everyone involved can understand the vision for the design. This clear communication is a vital step between the initial concept and the final finished product.

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243. (C) Modernism
One major style of design from the 20th century was based on the simple idea that the shape of an object should be determined by its purpose. This approach favored clean lines and the removal of any unnecessary decoration. It created buildings and furniture that were highly functional and efficient for the people who used them. This philosophy remains a major influence on many modern designs today because it prioritizes the needs and experiences of the user in every single project.

244. (D) It measures something consistently, but it is not the concept it is supposed to measure.
In research, a tool can be consistent without being accurate. This means it might give the same result every time it is used, which makes it reliable. However, it still might not be measuring the correct thing, which means it is not valid. To be truly useful, any survey or test must be successful in both of these areas. Without accuracy, even the most consistent measurements will not provide meaningful information for the study or its intended professional goals.

The main difference between conventional and non-conventional energy sources lies in their historical dominance and environmental impact. Conventional sources, such as fossil fuels, have been the mainstay of energy production for centuries but often cause significant environmental degradation. Non-conventional sources represent newer technologies that are generally more sustainable and have a much lower impact on the planet's overall health.

280. (D) To reduce the overall demand for energy through efficiency and policy.
National efforts on energy conservation are designed to reduce the total demand for energy through improved efficiency, policy changes, and the promotion of energy-saving technologies. These programs encourage lifestyle changes that contribute to national energy security and global sustainability goals. By lowering overall consumption, countries can mitigate the environmental impact of energy use and manage finite resources effectively.

281. (A) Empathizing with and understanding the user's needs.
The design thinking process begins with the empathy stage, which involves deeply understanding and empathizing with the users. Designers engage in this user-centric approach to identify specific needs and pain points before moving on to defining problems. This initial research ensures that the final product is designed to solve real-world issues and effectively meet the target audience's requirements.

282. (B) The rate and manner in which a new product is adopted by consumers.
The theories of diffusion and innovation are used to explain the rate and manner in which new ideas, technologies, and products spread through different cultures. This concept explores why certain innovations are adopted more quickly than others and helps designers understand consumer behavior. By analyzing these patterns, businesses can predict the market success and adoption timeline of their products.

283. (B) To optimize the product for human comfort, safety, and efficiency.
Ergonomic considerations play a vital role in product design by optimizing items for human comfort, safety, and efficiency. This scientific discipline focuses on designing products that match human capabilities and limitations, preventing strain and enhancing usability. By studying user interactions, designers can create forms and interfaces that ensure a better experience, making ergonomics a hallmark of successful design.

284. (A) Ensuring all stakeholders have a clear and common understanding of the design.
Design communication is essential for ensuring that the original design intent is clearly and consistently understood by all stakeholders involved in a project. This includes everyone from engineers and clients to the final end-users. By using sketches, drawings, and marketing materials, designers bridge the gap between initial concepts and final products, facilitating effective collaboration and preventing any misunderstandings.

285. (C) Prototype and Test
The actions of creating low-cost, functional models and observing user interactions correspond to the prototype and test stages of the design thinking process. Prototyping allows designers to visualize solutions, while testing provides vital feedback for refinement. This iterative cycle helps identify potential flaws and improvements before final production, ensuring the product is ergonomically sound and effectively meets needs.

286. (D) To optimize the relationship between humans and their work systems for better well-being and performance.
The primary significance of ergonomics is its focus on optimizing the interactions between humans and other system elements to improve well-being and overall performance. By designing tasks, environments, and systems that are compatible with human abilities and limitations, ergonomics reduces physical and mental strain. This discipline ensures that work systems are safer, more efficient, and supportive of health.

287. (C) Anthropometry
Anthropometry is the scientific study dedicated to the measurements and proportions of the human body. This data is fundamental to the field of ergonomics, as it provides the necessary

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Assertion (A) : Child abuse has long-lasting negative consequences on a child's physical, psychological, and emotional development.
Reason (R) : Experiences of abuse can disrupt normal brain development, attachment patterns, and the ability to regulate emotions.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) Assertion A is true but Reason R is factually false.
(D) Assertion A is false but Reason R is factually true.

56. What distinguishes a 'destitute child' from other children at risk?
(A) The child is involved in child labour.
(B) The child has a physical disability.
(C) The child lives on the street but has a family.
(D) The child is living in extreme poverty without basic necessities like food, shelter, or care.

57. An orphan is technically defined as a child:
(A) Whose parents are deceased, unknown, or have permanently abandoned them.
(B) Who has been abandoned by their parents.
(C) Who lives in an orphanage.
(D) Who runs away from home.

58. Identify the incorrect statement regarding children at risk.
(A) Poverty is a major contributing factor to children becoming at risk.
(B) Children who are trafficked are often subjected to exploitation and abuse.
(C) All street children are orphans with no family connections.
(D) Child abuse can be physical, emotional, sexual, or neglect.

59. Consider the following potential consequences of child labour:
1. Denial of education and opportunities for skill development.
2. Improved physical health due to manual work.
3. Exposure to hazardous and unsafe working conditions.
4. Positive social and psychological development.

Which of the above statement(s) is/are correct?
(A) 1 and 3
(B) 2 and 4
(C) 1 and 4
(D) 2 and 3

60. Child trafficking involves the recruitment, transportation, or harboring of children for the purpose of:
(A) International adoption.
(B) Education in a foreign country.
(C) Family reunification.
(D) Exploitation.

61. Interventions for street children should primarily focus on:
(A) Immediately placing them in large, impersonal government-run welfare institutions.
(B) Offering protection, education, healthcare, and opportunities for family reintegration.
(C) Providing them with direct financial assistance to meet their immediate daily needs.
(D) Arresting them for vagrancy to ensure they are removed from public street environments.

62. The developmental period of transition from childhood to adulthood, involving biological, cognitive, and socioemotional changes, is known as:
(A) Puberty
(B) Early Adulthood
(C) Adolescence
(D) Preadolescence

63. Consider the following potential challenges faced during adolescence:
1. Identity formation and crisis
2. Increased conflict with parents
3. Pressure from peer groups
4. Stable and unchanging emotional states
5. Establishment of a career and family

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 2, 4, and 5
(C) 1, 3, and 5
(D) 1, 4, and 5

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style revolutionized modern furniture design by prioritizing utility.

296. (D) Interview
Interviews are data collection tools that involve direct verbal interaction between a researcher and a participant. This method is particularly effective for gathering in-depth qualitative insights and exploring complex opinions or behaviors. Unlike written questionnaires, interviews allow for immediate follow-up questions and clarification, providing a richer understanding of the respondent's perspective within a study related to interior design.

297. (A) Reliability
Reliability refers to the consistency and stability of a research tool over time. If a survey consistently produces the same results when administered to the same group under identical conditions, it is considered highly reliable. This quality is crucial for ensuring that data is not influenced by random fluctuations, allowing researchers to have confidence in the stability of their measurements.

298. (B) To quantify subjective data like attitudes and opinions.
Measuring scales, such as Likert scales, are essential research tools used to quantify subjective data like attitudes, opinions, and satisfaction levels. By asking participants to respond on a spectrum, researchers can transform qualitative feelings into numerical values for analysis. This process allows for the systematic organization and comparison of user feedback, informing objective design decisions and evaluating outcomes.

299. (B) Accuracy in measuring the intended concept.
Validity in research refers to the accuracy of a measurement tool, specifically whether it truly measures the concept it is intended to measure. While reliability focuses on consistency, validity ensures that the data collected is relevant and truthful. A valid tool provides credible results that accurately reflect the reality of the situation being studied, which is paramount for high-quality research.

300. (A) Ranking scale
A ranking scale is a type of measurement tool that requires participants to order items based on specific criteria, such as preference or importance. By arranging fabric swatches from most to least preferred, clients provide data on their relative choices. This method helps researchers and designers understand priorities among a set of options, offering clear insights into user preferences.

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(C) 1, 2, and 4
(D) 1, 3, and 4

20. A child who believes that a tall, thin glass contains more water than a short, wide glass, even after seeing the water poured from one to the other, is demonstrating a lack of:
(A) Object permanence
(B) Egocentrism
(C) Animistic thinking
(D) Conservation

21. In Bronfenbrenner's ecological model, the 'exosystem' refers to:
(A) The immediate physical and social environment where an individual lives, including family and school.
(B) The broader culture in which an individual lives, including shared beliefs, values, and ideologies.
(C) Links between social settings where an individual lacks an active role but is still influenced by them.
(D) The overarching patterning of environmental events and transitions occurring over the entire life course.

22. The primary objective of Early Childhood Care and Education (ECCE) is to promote:
(A) Rapid academic learning and rote memorization.
(B) Holistic development of the child.
(C) Solely the physical health and nutrition of the child.
(D) Strict discipline and obedience to authority.

23. Consider the following activities and their effectiveness in promoting holistic development in early childhood:
1. Structured academic drills
2. Free play with a variety of materials
3. Storytelling and puppet shows
4. Nature walks and exploration
5. Watching educational videos for extended periods

Which of the above statement(s) is/are correct?
(A) 1, 2, and 5
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 2, 4, and 5

24. Holistic development in the context of ECCE encompasses which of the following domains?
(A) Physical, cognitive, language, social, and emotional development
(B) Physical and cognitive development only
(C) Social, emotional, and moral development
(D) Academic skills and creative arts

25. The use of play as a method of learning in early childhood is based on the principle that:
(A) Children can learn complex academic concepts only through play.
(B) Play keeps children occupied and out of trouble.
(C) Play is a natural and intrinsically motivating activity for children.
(D) Play is primarily for physical exercise and has little cognitive value.

26. An activity such as threading beads or using scissors is primarily designed to enhance which aspect of development in young children?
(A) Fine motor skills
(B) Gross motor skills
(C) Social-emotional skills
(D) Language comprehension

27. Arrange the following motor skills in the chronological order of their typical appearance in a child:
1. Walking
2. Rolling over
3. Sitting without support
4. Crawling

Choose the correct sequence:
(A) 1, 3, 4, 2
(B) 2, 3, 4, 1
(C) 3, 2, 1, 4
(D) 2, 4, 3, 1

28. Which of the following is NOT a characteristic of a high-quality ECCE program?
(A) A safe and stimulating environment
(B) A high teacher-child ratio with untrained staff
(C) A developmentally appropriate curriculum
(D) Positive and responsive interactions between teachers and children

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(A) Neural tube defects
(B) Down syndrome
(C) Cleft palate
(D) Congenital heart disease

11. Match the theories in List-I with their corresponding key concepts in List-II.
List I: (Theory)
P. Piaget's Theory
Q. Erikson's Theory
R. Freud's Theory
S. Vygotsky's Theory
List II: (Key Concept)
1. Psychosocial Crisis
2. Zone of Proximal Development
3. Psychosexual Stages
4. Cognitive Schemas
Choose the correct option:
(A) P-4, Q-1, R-3, S-2
(B) P-3, Q-2, R-1, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-1, Q-4, R-3, S-2

12. According to Jean Piaget's theory, the process of incorporating new information into pre-existing schemas is known as:
(A) Accommodation
(B) Assimilation
(C) Equilibration
(D) Centration

13. Identify the incorrect pair regarding Erikson's stages of psychosocial development.
(A) Infancy: Trust vs. Mistrust
(B) Adolescence: Identity vs. Role Confusion
(C) Middle Adulthood: Intimacy vs. Isolation
(D) Late Adulthood: Ego Integrity vs. Despair

14. The concept of the "Zone of Proximal Development" is central to the theory proposed by:
(A) Jean Piaget
(B) Lawrence Kohlberg
(C) Sigmund Freud
(D) Lev Vygotsky

15. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Select the correct answer from the options that follow.
Assertion (A) : According to Bronfenbrenner's ecological theory, the family and school are part of the microsystem.
Reason (R) : The microsystem consists of the immediate environments in which an individual directly participates.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) Assertion A is true but Reason R is factually false.
(D) Assertion A is false but Reason R is factually true.

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16. In Kohlberg's theory of moral development, behavior that is driven by a desire to obey rules and avoid punishment falls into which level?
(A) Conventional Morality
(B) Pre-conventional Morality
(C) Post-conventional Morality
(D) Unconventional Morality

17. Which of the following theories emphasizes the role of observational learning, imitation, and modeling in human development?
(A) Psychoanalytic Theory
(B) Social Learning Theory
(C) Cognitive Development Theory
(D) Ethological Theory

18. Sigmund Freud proposed that the component of personality that operates on the reality principle is the:
(A) Ego
(B) Id
(C) Superego
(D) Libido

19. Read the following statements regarding Piaget's theory of cognitive development:
1. The stages of development are universal and occur in an invariant sequence.
2. The sensorimotor stage is characterized by the development of object permanence.
3. The concrete operational stage involves the ability to think abstractly and hypothetically.
4. Accommodation is the process of adjusting existing schemas to fit new information.
Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 2, 3, and 4

dimensions to design workstations, furniture, and tools that fit the intended users. By applying anthropometric data, designers ensure that products are appropriately scaled for human use, maximizing comfort.

288. (B) Ensuring the compatibility between a worker, their tools, and their surroundings.
The man-machine-environment relationship is a central concept in ergonomics that emphasizes the compatibility between a worker, their machinery, and their physical surroundings. This approach ensures that the design of tools and work areas complements the physiological and psychological attributes of the person performing the task. By analyzing these interactions, ergonomists can create systems that minimize fatigue and maximize safety.

289. (D) Time and motion study
Time and motion study is a direct application of ergonomics where researchers analyze the specific sequences of movements required to perform a task. The goal is to eliminate inefficiencies and reduce physical strain by streamlining movements. This method helps in designing more functional workplaces and processes, leading to faster production times and improved worker well-being through reduced exertion.

290. (A) The worker's posture and the physical demands of the task.
The physiological cost of work is influenced by factors such as the physical demands of a task, a worker's posture, and repetitive motions. High workloads and poor body mechanics increase this cost, leading to fatigue and potential injury. Ergonomics seeks to minimize these negative effects by promoting efficient movement patterns and functional workplace designs that support the worker's health.

291. (C) Furniture design has often been a reflection of the dominant architectural movements of the era.
Furniture design throughout history has often functioned as a direct reflection of dominant architectural movements. For instance, the ornate details of Baroque furniture mirrored the grandeur of Baroque buildings, while the geometric forms of Bauhaus furniture aligned with its minimalist architecture. This historical relationship shows how various design disciplines influence each other, creating a cohesive visual style across various eras.

292. (A) A preference for multi-functional and modular furniture.
Contemporary furniture design is characterized by a strong focus on modularity, multi-functionality, and sustainability. Modern trends prioritize pieces that can be easily adapted to different spaces or serve multiple purposes, reflecting changing lifestyle needs. Additionally, current designs often incorporate technology and use environmentally friendly materials. These trends represent a response to the practical and ethical considerations of the present day.

293. (D) Hard and soft treatments.
Window treatments are categorized into two main types: hard treatments and soft treatments. Hard treatments include rigid options like blinds and shutters, which offer precise light control and durability. Soft treatments consist of fabric-based options like curtains and drapes, which provide aesthetic value and insulation. The choice between these categories depends on the room's function and privacy requirements.

294. (B) Providing structural support to the window frame
Window treatments serve several essential functions, including controlling light levels, providing privacy, offering insulation, and enhancing the aesthetic value of a space. However, they are not designed to provide structural support to the window frame itself. Their primary roles are related to environment control and visual design rather than the physical integrity of the building's apertures or wall structure.

295. (C) The Bauhaus movement
The Bauhaus movement is a historical architectural and design movement known for its emphasis on clean lines, geometric forms, and functional minimalism. A designer choosing a chair with these specific characteristics is drawing inspiration from this movement's philosophy, which rejected ornate decoration in favor of practical and streamlined aesthetics. This

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29. Encouraging children to sort objects by color, shape, and size in an ECCE setting primarily supports their:
(A) Emotional development
(B) Gross motor development
(C) Cognitive development
(D) Moral development

30. Read the following statements and select the correct option.
Statement I : A child's family is considered the primary agent of socialization.
Statement II : The family provides the initial context for the development of social skills, values, and personality.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

31. Match the parenting styles in List-I with their corresponding characteristics in List-II.
List I: (Parenting Style)
P. Authoritative
Q. Authoritarian
R. Permissive
S. Uninvolved
List II: (Characteristic)
1. High demands, low responsiveness
2. High demands, high responsiveness
3. Low demands, low responsiveness
4. Low demands, high responsiveness
Choose the correct option:
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-4, Q-3, R-2, S-1
(D) P-3, Q-4, R-1, S-2

32. The influence of peers on an adolescent's behavior, which can be either positive or negative, is commonly known as:
(A) Social facilitation
(B) Peer pressure
(C) Groupthink
(D) Peer mentoring

33. How does the school environment influence a child's personality development?
(A) Primarily through the delivery of the formal academic curriculum and grading.
(B) By providing a structured setting for social interaction, learning rules, and interacting with authority figures.
(C) Solely by the availability of physical infrastructure and modern classroom resources.
(D) It typically exerts minimal influence on personality when compared to the family unit.

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34. A child's personality is shaped by the broader culture through:
(A) The transmission of values, beliefs, customs, and gender roles.
(B) Genetic inheritance only.
(C) The specific school they attend.
(D) The number of siblings they have.

35. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Select the correct answer from the options that follow.
Assertion (A) : The authoritative parenting style is often associated with positive outcomes in children, such as high self-esteem and social competence.
Reason (R) : This style balances high expectations with warmth, responsiveness, and open communication.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) Assertion A is true but Reason R is factually false.
(D) Assertion A is false but Reason R is factually true.

36. Which parenting style is characterized by few demands or controls on children but high levels of warmth and responsiveness?
(A) Authoritarian
(B) Authoritative
(C) Uninvolved
(D) Permissive

37. The process by which an individual learns the social and cultural norms, values, and roles of their society is called:
(A) Maturation
(B) Acculturation
(C) Socialization

CHAPTER 07
Child/Human Development

1. Which of the following best defines 'growth' in the context of human development?
(A) The progressive acquisition of skills and capacities.
(B) A measurable, quantitative increase in physical size or mass.
(C) The process of maturation of physiological functions.
(D) The complex interplay of cognitive and social changes over time.

2. The principle of development that states that development proceeds from the center of the body outward is known as:
(A) Proximodistal principle
(B) Cephalocaudal principle
(C) Orthogenetic principle
(D) Sequential principle

3. Identify the correct statement regarding the principles of growth and development.
(A) Development is a discontinuous process characterized by abrupt changes.
(B) All parts of the body grow at the same rate throughout the developmental period.
(C) Development is predictable and follows an orderly pattern.
(D) Genetic factors are the sole determinants of development.

4. During which stage of prenatal development does the zygote attach to the uterine wall?
(A) Fetal Stage
(B) Embryonic Stage
(C) Neonatal Stage
(D) Germinal Stage

5. Which of the following is NOT a primary principle of human growth and development?
(A) Development proceeds from general to specific responses.
(B) Development is a product of the interaction between maturation and learning.
(C) Development rates are uniform for all individuals.
(D) Development is a continuous process.

6. The cephalocaudal principle of development describes the pattern of growth where:
(A) Development proceeds from the extremities towards the torso.
(B) The earliest growth always occurs at the top—the head.
(C) Development of motor skills precedes the development of sensory skills.
(D) Growth occurs in random, unpredictable spurts.

7. The period from birth to the first 28 days of life is referred to as the:
(A) Infancy period
(B) Prenatal period
(C) Toddlerhood period
(D) Neonatal period

8. A substance that can cause birth defects or adversely affect cognitive and behavioral outcomes is known as a:
(A) Teratogen
(B) Pathogen
(C) Carcinogen
(D) Antigen

9. Read the following statements and select the correct option.
Statement I : Growth refers to quantitative changes in the body, such as height and weight.
Statement II : Development refers to qualitative changes, such as the acquisition of skills and abilities.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

10. A pregnant woman is advised to consume adequate folic acid to prevent which of the following birth defects in the fetus?

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regular classrooms.

47. Occupational therapy as a form of rehabilitation primarily focuses on helping individuals:
(A) Develop and recover the skills needed for daily living and working.
(B) Find suitable employment.
(C) Improve their verbal communication skills.
(D) Manage their financial resources.

48. Primary prevention of disabilities refers to:
(A) Actions taken to detect and treat a disability at an early stage.
(B) Measures taken to avoid the occurrence of a disability or disease in the first place.
(C) Interventions aimed at limiting the effects of an existing disability.
(D) The process of rehabilitation after a disability has occurred.

49. Read the following statements and select the correct option.
Statement I : An Individualized Education Program (IEP) is a legal document in special education.
Statement II : An IEP outlines the specific educational goals and services for a student with a disability.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

50. A child who has significant difficulty with reading, writing, and spelling, despite having normal intelligence, may be diagnosed with a:
(A) Visual impairment
(B) Specific learning disability
(C) Hearing impairment
(D) Behavioral disorder

51. Match the types of rehabilitation in List-I with their corresponding focus areas in List-II.
List I: (Type of Rehabilitation)
P. Physical Therapy
Q. Speech Therapy
R. Occupational Therapy
S. Vocational Rehabilitation
List II: (Focus Area)
1. Improving skills for daily living (e.g., dressing, eating)
2. Training and placement for employment
3. Improving mobility, strength, and balance
4. Addressing communication and swallowing disorders
Choose the correct option:
(A) P-3, Q-4, R-1, S-2
(B) P-2, Q-1, R-4, S-3
(C) P-3, Q-1, R-2, S-4
(D) P-4, Q-3, R-1, S-2

52. The term 'children at risk' refers to children who:
(A) Are exceptionally gifted and talented.
(B) Live in affluent, dual-income households.
(C) Are more likely to experience poor developmental outcomes due to their circumstances.
(D) Are enrolled in high-quality preschool programs.

53. Which of the following is the most accurate definition of 'child labour'?
(A) Any economic activity or manual work performed by a child for their family during school hours.
(B) Children helping with light household chores after school to support their parents' daily routines.
(C) A formal summer internship or vocational training program designed for teenagers and students.
(D) Work that deprives children of their childhood, potential, and dignity, while harming their development.

54. The term 'street children' can include which of the following categories?
(A) Only children who live and sleep on the streets without any family contact.
(B) Children who are temporarily lost in a crowded place.
(C) Both children living on the streets and those working on the streets who maintain family ties.
(D) Children who work on the streets during the day but return to their families at night.

55. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Select the correct answer from the options that follow.

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(D) Assimilation

38. The impact of the community on personality development is best illustrated by:
(A) A child's inherited temperament.
(B) The quality of neighborhood resources like parks, libraries, and safety.
(C) A teacher's specific instructional style in a classroom.
(D) A child's preference for certain foods.

39. Consider the following agents of socialization and their influence on personality development:
1. Family
2. Mass media
3. Peer group
4. School

Which of the above statement(s) is/are correct?
(A) 1 and 3 only
(B) 1, 2, and 3
(C) 2 and 4 only
(D) 1, 2, 3, and 4

40. A child from a collectivist culture is more likely to develop a personality that emphasizes:
(A) Interdependence, cooperation, and group harmony.
(B) Independence and personal individual achievement.
(C) Competition and reliance on self-sufficiency.
(D) Emotional expression and interpersonal assertiveness.

41. Which of the following is an example of the influence of the 'peer group' on personality development?
(A) A child learning table manners from parents.
(B) A child following the rules set by the school principal.
(C) A child adopting the slang and clothing style of their friends.
(D) A child watching and imitating a character from a television show.

42. "Special Education" is best described as:
(A) Specially designed instruction to meet the unique needs of a child with a disability.
(B) Education provided to gifted children only.
(C) Education provided in a segregated setting, away from mainstream schools.
(D) Any form of education that uses technology.

43. Consider the following statements regarding care and support for persons with special needs:
1. Rehabilitation aims to help individuals achieve the highest possible level of function and independence.
2. Prevention of disabilities can include measures like prenatal care and immunization.
3. Special education should be provided in separate schools to avoid disturbing other students.
4. A key goal is to promote inclusion and participation in community life.
5. Support is only required during childhood and not in adulthood.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) 2, 3, and 5
(C) 1, 3, and 4
(D) 1, 2, and 5

44. The process of helping an individual with a disability to regain skills and functions lost is termed:
(A) Prevention
(B) Rehabilitation
(C) Diagnosis
(D) Accommodation

45. Which of the following is NOT a primary category of disability?
(A) Physical disability
(B) Cognitive disability
(C) Behavioral preference
(D) Learning disability

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46. The concept of 'inclusion' in the context of special needs education refers to:
(A) Placing all children with disabilities in one specialized classroom within a community school.
(B) Providing individualized home-based education for all children who have various special needs.
(C) Exempting children with special needs from all standardized academic and physical assessments.
(D) Educating children with special needs alongside their non-disabled peers in

64. The biological event that signals the end of childhood and the onset of adolescence is:
(A) Menarche in girls and spermarche in boys.
(B) The development of formal operational thought.
(C) Achieving a driver's license.
(D) The completion of the growth spurt.

65. Adolescent egocentrism, as described by David Elkind, is characterized by the concepts of:
(A) Conservation and centration.
(B) The imaginary audience and the personal fable.
(C) Assimilation and accommodation.
(D) The Oedipus complex and Electra complex.

66. A program designed to promote optimal development in youth might focus on:
(A) Encouraging risk-taking behaviors to build resilience.
(B) Providing opportunities for leadership, skill-building, and community involvement.
(C) Isolating them from peer influences.
(D) Limiting their access to information and technology.

67. Arrange the following pubertal changes in the typical sequence of their appearance in males:
1. Growth of testes and scrotum
2. Appearance of pubic hair
3. First ejaculation (spermarche)
4. Peak of height spurt

Choose the correct sequence:
(A) 1, 2, 3, 4
(B) 2, 1, 4, 3
(C) 1, 2, 4, 3
(D) 4, 3, 2, 1

68. The "personal fable" in adolescence refers to the belief that:
(A) Everyone is constantly watching and judging their every move and appearance.
(B) They must strictly conform to the expectations and styles of their peer group.
(C) Their own experiences are unique and they are invulnerable to potential harm.
(D) They are destined for a great and heroic future regardless of current actions.

69. According to Erikson, the primary psychosocial task of adolescence is to resolve the crisis of:
(A) Trust vs. Mistrust
(B) Autonomy vs. Shame and Doubt
(C) Initiative vs. Guilt
(D) Identity vs. Role Confusion

70. Read the following statements and select the correct option.
Statement I : The prefrontal cortex, which is responsible for judgment and decision-making, matures fully in early adolescence.
Statement II : The incomplete development of the prefrontal cortex can contribute to impulsive and risk-taking behavior in adolescents.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

71. Match the adolescent challenges in List-I with their corresponding descriptions in List-II.
List I: (Adolescent Challenge)
P. Imaginary Audience
Q. Personal Fable
R. Identity Foreclosure
S. Role Confusion
List II: (Description)
1. Committing to an identity without exploration
2. Belief that one is the center of everyone's attention
3. Inability to form a stable sense of self
4. Belief in one's own uniqueness and invulnerability

Choose the correct option:
(A) P-1, Q-3, R-4, S-2
(B) P-2, Q-4, R-1, S-3
(C) P-3, Q-1, R-2, S-4
(D) P-2, Q-1, R-3, S-4

72. Which period of adulthood is typically characterized by establishing a career, forming intimate relationships, and starting a family?
(A) Late Adulthood
(B) Middle Adulthood
(C) Emerging Adulthood
(D) Early Adulthood

73. The "sandwich generation" is a term used to describe middle-aged adults who:
(A) Are financially supporting both their children and their aging parents.

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92. In a research study, the variable that is manipulated or changed by the researcher to observe its effect is called the:
(A) Dependent variable
(B) Confounding variable
(C) Control variable
(D) Independent variable

93. A researcher is studying the effect of a new teaching method on student performance. What is the dependent variable in this study?
(A) The new teaching method
(B) Student performance
(C) The age of the students
(D) The school where the study is conducted

94. An extraneous variable that is related to both the independent and dependent variables and can potentially distort the observed relationship is known as a:
(A) Mediator variable
(B) Moderator variable
(C) Confounding variable
(D) Dichotomous variable

95. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Select the correct answer from the options that follow.
Assertion (A) : In experimental research, it is crucial to control for extraneous variables.
Reason (R) : Failure to control for extraneous variables can lead to incorrect conclusions about the causal relationship between the independent and dependent variables.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) Assertion A is true but Reason R is factually false.
(D) Assertion A is false but Reason R is factually true.

96. Variables such as gender, marital status, and race are examples of:
(A) Categorical variables
(B) Continuous variables
(C) Ratio variables
(D) Interval variables

97. A variable that is kept constant throughout a research study to prevent it from influencing the outcome is a:
(A) Dependent variable
(B) Control variable
(C) Independent variable
(D) Random variable

98. Which of the following is an example of a continuous variable?
(A) Type of parenting style (e.g., authoritative, permissive)
(B) Height in centimeters
(C) Whether a child has a disability (yes/no)
(D) Country of birth

99. Consider the following considerations when selecting variables for a study on child development:
1. The variables must be relevant to the research question.
2. The variables must be measurable.
3. The definition of each variable must be clear and specific (operationalized).
4. The variables must always be categorical in nature.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 2, 3, and 4
(C) 1 and 4
(D) 1, 2, 3, and 4

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100. The process of defining a variable in terms of the specific procedures used to measure or manipulate it is called:
(A) Generalization
(B) Conceptualization
(C) Operationalization
(D) Theorization

101. A researcher wants to study if family income level (low, middle, high) affects the academic achievement of adolescents. In this study, family income level is a:
(A) Dependent variable
(B) Moderator variable
(C) Continuous variable
(D) Categorical independent variable

102. The neonatal period is critical because:
(A) The child develops language skills.

(B) Gerontology
(C) Thanatology
(D) Senescence

83. Consider the following physical and psychological changes associated with the aging process:
1. A decline in fluid intelligence
2. An increase in crystallized intelligence
3. A decrease in sensory acuity (e.g., vision, hearing)
4. An increase in the speed of motor responses
5. A universal onset of dementia

Which of the above statement(s) is/are correct?
(A) 1, 4, and 5
(B) 2, 3, and 4
(C) 1, 2, and 3
(D) 3, 4, and 5

84. 'Senescence' is a term that refers to:
(A) The social and cultural aspects of aging.
(B) The period of late adulthood.
(C) The biological process of aging and the gradual deterioration of functional characteristics.
(D) The wisdom accumulated over a lifetime.

85. A common psychological challenge faced by the elderly is:
(A) Identity crisis
(B) Peer pressure
(C) Establishing a career
(D) Loneliness and social isolation

86. Which of the following best describes the difference between crystallized and fluid intelligence in the context of aging?
(A) Fluid intelligence increases, while crystallized intelligence decreases.
(B) Both increase throughout the lifespan.
(C) Crystallized intelligence increases, while fluid intelligence decreases.
(D) Both decline sharply in middle adulthood.

87. Identify the care need that is NOT typically a primary focus for the aging population.
(A) Management of chronic health conditions.
(B) Interventions for resolving childhood conflicts.
(C) Support for maintaining social connections.
(D) Assistance with activities of daily living (ADLs).

88. The final stage in Erikson's psychosocial theory, which is prominent in late adulthood, is:
(A) Generativity vs. Stagnation
(B) Intimacy vs. Isolation
(C) Trust vs. Mistrust
(D) Ego Integrity vs. Despair

89. A common physical change associated with aging is presbycusis, which is the age-related decline in:
(A) Hearing
(B) Vision
(C) Taste
(D) Smell

90. Read the following statements and select the correct option.
Statement I : Aging is a heterogeneous process, meaning that older adults vary greatly in their physical and psychological functioning.
Statement II : All individuals experience the same rate and pattern of age-related decline.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

91. Match the concepts in aging in List-I with their corresponding definitions in List-II.
List I: (Concept in Aging)
P. Fluid Intelligence
Q. Crystallized Intelligence
R. Presbyopia
S. Ego Integrity
List II: (Definition)
1. Accumulated knowledge and verbal skills
2. Ability to reason abstractly and solve novel problems
3. Feeling that one's life has been meaningful
4. Age-related decline in the ability to focus on near objects

Choose the correct option:
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-4, Q-3, R-2, S-1
(D) P-3, Q-4, R-1, S-2

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(B) Are caught between their own career ambitions and family life.
(C) Are experiencing a mid-life crisis.
(D) Are transitioning between jobs.

74. Which of the following is a characteristic change often associated with middle adulthood?
(A) A peak in physical strength and sensory acuity.
(B) A decline in vocabulary and general knowledge.
(C) A re-evaluation of life goals and priorities, sometimes leading to a "mid-life crisis".
(D) The initial formation of a personal identity.

75. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Select the correct answer from the options that follow.
Assertion (A) : In early adulthood, individuals face the psychosocial crisis of Intimacy vs. Isolation.
Reason (R) : The successful formation of a stable identity in adolescence is a prerequisite for being able to form intimate, long-term relationships in early adulthood.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) Assertion A is true but Reason R is factually false.
(D) Assertion A is false but Reason R is factually true.

76. Identify the correct statement about the changing roles and responsibilities in middle adulthood.
(A) Responsibilities typically decrease as children leave home and careers stabilize.
(B) This stage is universally marked by a decline in productivity and satisfaction.
(C) There is a complete withdrawal from social and family obligations.
(D) Individuals often take on leadership roles at work and in the community.

77. Which of the following is NOT a primary developmental task of early adulthood?
(A) Selecting a mate
(B) Accepting and adjusting to the physiological changes of aging
(C) Achieving financial independence
(D) Starting an occupation

78. The concept of 'mid-life crisis' is best understood as:
(A) A universal and inevitable experience for all middle-aged adults in all cultures.
(B) A formal medical diagnosis that requires specific clinical or pharmaceutical intervention.
(C) A period of emotional turmoil marked by a desire for change and questioning past decisions.
(D) The specific financial strain associated with supporting children and elderly parents simultaneously.

79. Consider the following typical responsibilities and roles associated with middle adulthood:
1. Launching children into their own lives.
2. Reaching the peak of one's career.
3. Caring for aging parents.
4. Exploring one's initial career choices.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 2, 3, and 4
(C) 1 and 4
(D) 1, 2, 3, and 4

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80. According to Erikson's theory, the primary psychosocial challenge of middle adulthood is:
(A) Generativity vs. Stagnation
(B) Identity vs. Role Confusion
(C) Intimacy vs. Isolation
(D) Ego Integrity vs. Despair

81. 'Generativity', in the context of middle adulthood, refers to:
(A) The ability to generate new ideas and be creative.
(B) A concern for establishing and guiding the next generation.
(C) The biological capacity to generate offspring.
(D) The accumulation of wealth for future generations.

82. The scientific study of the biological, psychological, and social aspects of aging is known as:
(A) Geriatrics

(B) It is when the growth spurt is at its peak.
(C) It is a time of major physiological adjustment to life outside the womb.
(D) The child forms their primary social identity.

103. Consider the following key principles of growth and development:
1. Development is a product of heredity only.
2. Development is sequential and orderly.
3. Development proceeds from general to specific.
4. All individuals develop at exactly the same rate.
5. Development is a continuous process from conception to death.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) 2, 3, and 5
(C) 1, 3, and 5
(D) 2, 4, and 5

104. The Moro reflex in a newborn is an example of:
(A) A learned behavior
(B) A sign of developmental delay
(C) A fine motor skill
(D) An innate, automatic response to a specific stimulus

105. Care during pregnancy should include avoiding teratogens. Which of the following is an example of a behavioral teratogen?
(A) Heavy alcohol consumption
(B) Folic acid supplementation
(C) Regular exercise
(D) A balanced diet

106. Read the following statements and select the correct option.
Statement I : The embryonic stage of prenatal development is a critical period for organ formation.
Statement II : The developing organism is highly susceptible to damage from teratogens during the embryonic stage.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

107. Arrange the stages of prenatal development in the correct chronological order:
1. Fetal Stage
2. Germinal Stage
3. Embryonic Stage

Choose the correct sequence:
(A) 1, 2, 3
(B) 2, 3, 1
(C) 3, 1, 2
(D) 2, 1, 3

108. Which theory of human development focuses on how children actively construct their understanding of the world through stages?
(A) B.F. Skinner's Behaviorism
(B) Albert Bandura's Social Learning Theory
(C) Urie Bronfenbrenner's Ecological Systems Theory
(D) Jean Piaget's Cognitive Development Theory

109. According to Freud's psychoanalytic theory, unresolved conflicts during a psychosexual stage can lead to a:
(A) Schema
(B) Fixation
(C) Crisis
(D) Reinforcement

110. Which statement incorrectly represents a major theory of human development?
(A) Erikson's theory describes eight psychosocial stages across the lifespan.
(B) Vygotsky emphasized the role of social interaction and culture in cognitive development.
(C) Kohlberg's theory outlines the stages of psychosexual development.
(D) Piaget's theory details the stages of cognitive development from infancy to adolescence.

111. Match Kohlberg's stages in List-I with their corresponding moral reasoning in List-II.
List I: (Kohlberg's Stage)
P. Stage 1: Obedience and Punishment
Q. Stage 3: Good Boy/Good Girl
R. Stage 5: Social Contract
S. Stage 6: Universal Ethical Principles
List II: (Moral Reasoning)
1. Actions are right if they are approved by others.
2. Laws are important, but can be changed for the greater good.

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129. Which of the following conditions is an example of a cognitive disability?
(A) Cerebral Palsy
(B) Intellectual Disability (formerly Mental Retardation)
(C) Hearing Impairment
(D) Dyslexia

130. Identifying the correct statement regarding 'children at risk'.
(A) Child abuse is limited to physical harm and does not include neglect.
(B) All child laborers willingly choose to work instead of going to school.
(C) Children of destitute families are at high risk for malnutrition and lack of education.
(D) An orphan is any child who is disobedient to their parents.

131. Match the at-risk categories in List-I with their corresponding primary characteristics in List-II.
List I: (At-Risk Category)
P. Child Labour
Q. Street Children
R. Child Abuse
S. Orphan
List II: (Primary Characteristic)
1. Lack of parental care due to death or abandonment
2. Act of commission or omission that harms a child
3. Work that is exploitative and harmful to a child
4. Living and/or working in public spaces
Choose the correct option:
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-2, S-1
(C) P-4, Q-3, R-1, S-2
(D) P-3, Q-2, R-4, S-1

132. The primary cause underlying most instances of child labour and destitution is:
(A) The child's unwillingness to study.
(B) Parental negligence.
(C) Systemic poverty and lack of opportunities.
(D) The child's desire for independence.

133. What is a key difference between a 'child of destitute' and a 'street child'?
(A) A destitute child is always an orphan, while a street child is not.
(B) Street children always have families, while destitute children do not.
(C) There is no difference; the terms are synonymous.
(D) 'Destitute' refers to extreme poverty, while 'street child' refers to location of life and work.

134. Which form of child abuse involves a failure to provide for a child's basic needs, such as food, clothing, or medical care?
(A) Physical abuse
(B) Emotional abuse
(C) Neglect
(D) Sexual abuse

135. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Select the correct answer from the options that follow.
Assertion (A) : Programs to promote optimal development in adolescents should be multi-faceted.
Reason (R) : Adolescence involves interconnected changes in the biological, cognitive, and social-emotional domains, and challenges in this period are often complex.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) Assertion A is true but Reason R is factually false.
(D) Assertion A is false but Reason R is factually true.

136. The rapid physical growth and hormonal changes that occur in early adolescence are collectively known as:
(A) Menarche
(B) Spermarche
(C) Senescence
(D) Puberty

137. Which cognitive ability, characteristic of Piaget's formal operational stage, allows adolescents to think about possibilities and abstract concepts?
(A) Hypothetico-deductive reasoning
(B) Animistic thinking
(C) Centration
(D) Conservation

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(A) 1, 2, and 4
(B) 1 and 3 only
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

120. A child's temperament, which is part of their personality, is largely considered to be:
(A) Entirely learned from parents.
(B) Developed only during adolescence.
(C) The same for all children within a culture.
(D) A stable, biologically based individual difference in behavior and emotional response.

121. The "hidden curriculum" of a school refers to the:
(A) The unstated lessons, values, and norms transmitted through the school's social environment.
(B) The formal subjects taught, such as math and science.
(C) After-school tutoring programs.
(D) The syllabus that is not completed by the end of the year.

122. An authoritarian parenting style, characterized by strict rules and high demands without warmth, is often linked to which outcome in children?
(A) High self-esteem and social competence.
(B) Creativity and independence.
(C) Anxiety, low self-esteem, and poor social skills.
(D) A close and trusting relationship with parents.

123. Consider the following ways in which culture influences personality development:
1. Beliefs about appropriate emotional expression.
2. The emphasis on individualism versus collectivism.
3. The definition of gender roles.
4. The language spoken within the family.
5. The genetic makeup of the individual.

Which of the above statement(s) is/are correct?
(A) 1, 2, 3, and 4
(B) 2, 3, and 5
(C) 1, 4, and 5
(D) All of the above

124. What is the most significant difference between prevention of disabilities and rehabilitation?
(A) Prevention is a medical process, while rehabilitation is educational.
(B) Prevention is for children, while rehabilitation is for adults.
(C) There is no significant difference; the terms are interchangeable.
(D) Prevention occurs before a disability manifests, while rehabilitation occurs after.

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125. An example of a tertiary prevention strategy for disability would be:
(A) Immunizing a child against polio.
(B) Providing vocational rehabilitation to a person who has had a spinal cord injury.
(C) Screening newborns for metabolic disorders.
(D) Promoting folic acid intake during pregnancy.

126. Read the following statements and select the correct option.
Statement I : Inclusive education benefits only children with special needs.
Statement II : Research suggests that inclusive settings can foster tolerance, cooperation, and a better understanding of diversity among all students.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

127. The most fundamental aspect of care and support for persons with special needs is:
(A) Providing financial aid exclusively.
(B) Focusing on their limitations and what they cannot do.
(C) Isolating them to provide specialized care more efficiently.
(D) Recognizing their rights, dignity, and potential for growth.

128. Speech therapy is a rehabilitation service that would be most crucial for a person with:
(A) Aphasia (a language disorder) after a stroke.
(B) A mobility impairment due to a leg fracture.
(C) A visual impairment.
(D) A need for job training.

novelty-seeking behavior.
(C) A greater risk of depression, often linked to loss and health issues.
(D) A process of life review, reflecting on one's past.

147. Arrange the following of Erikson's psychosocial crises in chronological order from infancy to late adulthood:
1. Identity vs. Role Confusion
2. Trust vs. Mistrust
3. Generativity vs. Stagnation
4. Ego Integrity vs. Despair

Choose the correct sequence:
(A) 2, 1, 3, 4
(B) 1, 2, 3, 4
(C) 2, 3, 1, 4
(D) 4, 3, 2, 1

148. The "disengagement theory" of aging suggests that:
(A) Older adults should be encouraged to remain as active and engaged as possible.
(B) Aging is primarily a biological process of cell deterioration.
(C) Successful aging involves a mutual withdrawal between the older person and society.
(D) The primary task of old age is to pass on knowledge to the next generation.

149. The "activity theory" of aging proposes that:
(A) It is normal and desirable for the elderly to withdraw from society.
(B) Cognitive activity can prevent all forms of physical decline.
(C) Social activity is the only factor in successful aging.
(D) Older adults who are more active and involved have greater life satisfaction.

150. A key feature of an older person experiencing significant physical and psychological changes is:
(A) To be treated as incapable and dependent.
(B) To have all decisions made for them.
(C) To receive support that promotes autonomy and dignity while addressing health and safety.
(D) To be isolated from social situations that may be stressful.

151. Match the research variables in List-I with their corresponding examples in List-II.
List I: (Research Variable)
P. Independent Variable
Q. Dependent Variable
R. Control Variable
S. Confounding Variable
List II: (Example)
1. The room temperature kept at 22°C for all participants in a study on concentration.
2. The unmeasured intelligence level of students in a study comparing two teaching methods.
3. The amount of sleep (manipulated by the researcher) given to participants.
4. The score on a memory test taken by participants after varying amounts of sleep.

Choose the correct option:
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

152. In a study examining the relationship between hours of study per week and exam scores, what type of variable is 'hours of study'?
(A) A categorical variable
(B) A dependent variable
(C) A confounding variable
(D) A continuous variable

153. A researcher wants to study the effect of praise (present vs. absent) on the motivation of 6-year-old children. To ensure that the children's pre-existing motivation levels don't skew the results, the researcher should consider pre-existing motivation as a potential:
(A) Extraneous or confounding variable
(B) Independent variable
(C) Dependent variable
(D) Control variable that needs to be measured

154. If a variable can take on any value within a given range (e.g., height, weight, time), it is known as a:
(A) Dichotomous variable
(B) Categorical variable
(C) Continuous variable
(D) Nominal variable

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138. An effective program for promoting optimal youth development would most likely include all of the following EXCEPT:
(A) Mentorship opportunities with positive adult role models.
(B) Skill-building workshops (e.g., communication, problem-solving).
(C) Activities that encourage conformity and discourage questioning.
(D) Safe spaces for social interaction and recreation.

139. Consider the following major developmental changes during adolescence:
1. The onset of puberty and achievement of sexual maturity.
2. The development of abstract and idealistic thinking.
3. The quest for independence and a stable identity.
4. A decrease in the importance of peer relationships.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 2, 3, and 4
(C) 1 and 4
(D) 1, 2, 3, and 4

140. Which of the following best describes a key role change in early adulthood?
(A) Transitioning from active career to retirement.
(B) Transitioning from concrete operational thought to formal operational thought.
(C) Transitioning from dependence on a caregiver to school-age independence.
(D) Transitioning from being a child in a family to potentially starting one's own.

141. The feeling of being "off-time" in adulthood refers to:
(A) Consistently being late for appointments.
(B) Experiencing major life events at a different age than one's peers and societal expectations.
(C) A psychological disorder related to time perception.
(D) The physical slowing of reaction time in late adulthood.

142. A significant responsibility that often emerges for individuals in middle adulthood is:
(A) Learning to walk and talk.
(B) Developing a sense of personal identity for the first time.
(C) Assuming a mentorship role for younger colleagues.
(D) Adjusting to life in retirement.

143. Consider the following characteristic features of early adulthood:
1. Peak physical performance and health.
2. Exploration of identity in love and work.
3. Launching children and becoming a grandparent.
4. A focus on career consolidation and maintenance.
5. The psychosocial crisis of Intimacy vs. Isolation.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 5
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 3, 4, and 5

144. Physical changes in middle adulthood often include:
(A) A gradual decline in physical strength and stamina, and changes in appearance.
(B) A significant increase in height and muscle mass.
(C) An improvement in near vision and hearing acuity.
(D) The onset of puberty.

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145. One of the primary psychological changes that can occur during aging is a shift in time perspective, where individuals:
(A) Cease to think about the future entirely.
(B) Focus more on the time they have left to live rather than the time since their birth.
(C) Believe they have an infinite amount of time remaining.
(D) Become unable to distinguish between past, present, and future.

146. Which of the following is NOT a typical psychological change associated with aging?
(A) An increase in life satisfaction and emotional stability for many.
(B) An increased prevalence of risk-taking and

3. Actions are judged by an internal moral code.
4. Actions are wrong if they lead to punishment.

Choose the correct option:
(A) P-4, Q-1, R-2, S-3
(B) P-3, Q-2, R-1, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-1, Q-4, R-3, S-2

112. The concept that behavior is controlled by its consequences (reinforcement and punishment) is a cornerstone of which theory?
(A) Operant conditioning
(B) Psychoanalytic theory
(C) Social learning theory
(D) Cognitive developmental theory

113. Urie Bronfenbrenner's 'macrosystem' refers to the:
(A) Face-to-face interactions of the individual.
(B) Attitudes and ideologies of the culture.
(C) Link between two or more settings (e.g., home and school).
(D) Time-based changes in a person's environment.

114. A key difference between Piaget's and Vygotsky's theories of cognitive development is that:
(A) Piaget emphasized active social interaction, while Vygotsky emphasized individual exploration.
(B) Vygotsky emphasized the role of language and culture, while Piaget focused more on universal stages.
(C) Piaget's theory applies specifically to adults, while Vygotsky's applies only to developing children.
(D) Vygotsky proposed a higher number of distinct stages of development than the Piagetian model.

115. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Select the correct answer from the options that follow.
Assertion (A) : In ECCE, a developmentally appropriate curriculum is crucial for effective learning.
Reason (R) : A developmentally appropriate curriculum considers the age, individual, and cultural appropriateness of activities and experiences for children.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) Assertion A is true but Reason R is factually false.
(D) Assertion A is false but Reason R is factually true.

116. Which of the following is the most appropriate activity to promote social development in a preschooler?
(A) Watching an educational video alone.
(B) Completing a written worksheet.
(C) Participating in a group-building activity with blocks.
(D) Practicing writing the alphabet.

117. The term "holistic development" implies that:
(A) All developmental domains are important but separate.
(B) Cognitive development is the most important domain.
(C) Development is complete by early childhood.
(D) Development in one domain can influence development in other domains.

118. Which activity would best promote the development of gross motor skills in a 4-year-old?
(A) Coloring a picture within the lines.
(B) Listening to a story.
(C) Running, jumping, and climbing on a playground.
(D) Solving a simple puzzle.

119. Read the following statements regarding an Early Childhood Education program designed to promote holistic development:
1. Opportunities for creative expression through art and music.
2. Activities that encourage problem-solving and critical thinking.
3. A focus solely on academic readiness for primary school.
4. Experiences that foster social skills like sharing and cooperation.

Which of the above statement(s) is/are correct?

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155. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Select the correct answer from the options that follow.
Assertion (A) : The selection of variables is a critical first step in designing a research study.
Reason (R) : The variables selected determine what will be manipulated, measured, and controlled, thereby defining the very scope and nature of the research question.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) Assertion A is true but Reason R is factually false.
(D) Assertion A is false but Reason R is factually true.

156. The principle that development is 'cumulative' means that:
(A) Development happens in discrete, unrelated stages.
(B) Development stops after childhood.
(C) Development is solely determined by genetics.
(D) Earlier development provides the foundation for later development.

157. The APGAR score is assessed in which period of development?
(A) Prenatal period
(B) Neonatal period
(C) Toddlerhood
(D) Adolescence

158. Identify the incorrect statement about care during pregnancy.
(A) A balanced diet rich in essential nutrients is vital.
(B) Regular, moderate exercise is generally recommended.
(C) All forms of medication are safe to take without consulting a doctor.
(D) Emotional stress should be managed as it can affect the fetus.

159. Consider the following factors and their importance for optimal neonatal development:
1. Establishing a secure attachment with caregivers.
2. Receiving adequate nutrition.
3. Being in a sensorily stimulating environment.
4. Starting formal academic instruction.
Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 2, 3, and 4
(C) 1 and 4
(D) 1, 2, 3, and 4

160. The "age of viability," when a fetus has a chance of surviving outside the womb, is typically reached during which period?
(A) The third trimester
(B) The first trimester
(C) The second trimester
(D) The embryonic stage

161. A young child calls every four-legged animal "doggy." According to Piaget, this is an example of:
(A) Accommodation
(B) Assimilation
(C) Equilibration
(D) Object Permanence

162. A parent helps a child solve a puzzle by providing hints and encouragement, gradually withdrawing support as the child becomes more competent. This is an example of:
(A) Classical conditioning
(B) Scaffolding
(C) Negative reinforcement
(D) Fixation

163. Consider the following elements of the behaviorist perspective on human development:
1. Unconscious drives and conflicts
2. Environmental stimuli and consequences
3. The process of observation and imitation
4. Innate, pre-programmed stages of growth
5. Reinforcement and punishment
Which of the above statement(s) is/are correct?
(A) 1 and 4
(B) 2 and 5
(C) 1, 3, and 4
(D) 2, 3, and 5

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164. What is the main focus of activities designed to promote language development in early childhood?

(A) 1, 2, and 3
(B) 2, 4, and 5
(C) 1, 3, and 5
(D) 1, 2, and 4

184. The successful resolution of Erikson's final psychosocial stage, Ego Integrity vs. Despair, results in the virtue of:
(A) Hope
(B) Love
(C) Care
(D) Wisdom

185. In research methodology, why is the selection of variables important?
(A) It defines the scope and focus of the research question.
(B) It determines the statistical tests that can be used.
(C) It ensures the study will have significant results.
(D) It is a formality required for publication but has little practical impact.

186. A variable that the researcher measures to see if it has been affected by a change in another variable is the:
(A) Independent variable
(B) Control variable
(C) Dependent variable
(D) Extraneous variable

187. Arrange the following research steps in a logical chronological order:
1. Collect data.
2. Select variables and formulate a hypothesis.
3. Analyze data and draw conclusions.
4. Choose a research design.

Choose the correct sequence:
(A) 2, 4, 1, 3
(B) 1, 2, 3, 4
(C) 4, 2, 1, 3
(D) 2, 1, 4, 3

188. 'Development is multidimensional' implies that development:
(A) Occurs in one direction only.
(B) Is the same for everyone.
(C) Stops at a certain age.
(D) Involves a dynamic interplay of biological, cognitive, and socioemotional factors.

189. The proximodistal pattern of growth is evident when a child can:
(A) See objects before they can control their torso.
(B) Control their arms before they can control their fingers.
(C) Lift their head before they can walk.
(D) Babble before they can speak words.

190. Read the following statements and select the correct option.
Statement I : At birth, an infant's vision is fully developed and comparable to that of an adult.
Statement II : Newborns' vision is blurry, and they focus best on objects 8-12 inches away, which is roughly the distance to the caregiver's face during feeding.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

191. Match the theorists in List-I with their corresponding primary focus of theory in List-II.
List I: (Theorist)
P. Lawrence Kohlberg
Q. Albert Bandura
R. Urie Bronfenbrenner
S. Erik Erikson
List II: (Primary Focus of Theory)
1. Social-Ecological Systems
2. Lifespan Psychosocial Development
3. Moral Development
4. Social-Cognitive Learning

Choose the correct option:
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-1, S-2
(C) P-4, Q-3, R-2, S-1
(D) P-3, Q-1, R-4, S-2

192. A person who justifies breaking a law to save a life, arguing that the principle of preserving life is more important than the law, is operating at which level of Kohlberg's moral theory?
(A) Post-conventional
(B) Pre-conventional
(C) Conventional
(D) Non-conventional

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174. Which of the following best describes the situation of a 'child of destitute'?
(A) A child whose parents are wealthy but emotionally distant.
(B) A child who temporarily runs away from home after an argument.
(C) A child lacking the most basic means of survival due to extreme poverty.
(D) A child who works part-time after school to earn pocket money.

175. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Select the correct answer from the options that follow.
Assertion (A) : The number of 'street children' is difficult to estimate accurately.
Reason (R) : The population is mobile, often hidden, and definitions can vary, including both 'children of the street' (with family ties) and 'children on the street' (without family ties).
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) Assertion A is true but Reason R is factually false.
(D) Assertion A is false but Reason R is factually true.

176. Which of the following is a key challenge during adolescence related to cognitive changes?
(A) A tendency towards idealistic thinking which can clash with the realities of the world.
(B) The inability to understand concrete concepts.
(C) A loss of memory and language skills.
(D) The development of object permanence.

177. A youth program that involves community service projects is primarily aimed at fostering:
(A) Adolescent egocentrism.
(B) Social responsibility and a sense of connection to the community.
(C) Conflict with parental authority.
(D) A personal fable of invulnerability.

178. The term 'empty nest syndrome' refers to:
(A) The crisis of middle adulthood.
(B) The loneliness and loss some parents feel when their children leave home.
(C) The challenges of caring for aging parents.
(D) The experience of being an orphan.

179. Consider the following characteristics typically associated with early adulthood:
1. Peak physical condition
2. Career exploration and establishment
3. Life review and reflection on mortality
4. Forming intimate, long-term relationships
Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) 1 and 3 only
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

180. A person in middle adulthood who becomes a mentor to a younger colleague is demonstrating:
(A) Stagnation
(B) Isolation
(C) Generativity
(D) Role confusion

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181. A major life transition that often occurs in late adulthood and requires significant psychological adjustment is:
(A) Starting a first job
(B) Marriage
(C) Moving away from home for the first time
(D) Retirement from work

182. A common care need for the aging population is assistance with IADLs (Instrumental Activities of Daily Living), which include tasks like:
(A) Bathing and dressing.
(B) Eating and walking.
(C) Managing finances and transportation.
(D) Breathing and sleeping.

183. Consider the following potential care needs for the aging population:
1. Management of chronic diseases like hypertension and arthritis.
2. Opportunities for social engagement to combat loneliness.
3. Modifications to the living environment for safety and accessibility.
4. Support for resolving the identity vs. role confusion crisis.
5. Assistance with primary education.
Which of the above statement(s) is/are correct?

held upright.

223. According to Erikson, if an adolescent fails to develop a stable identity, they will experience:
(A) Mistrust
(B) Guilt
(C) Stagnation
(D) Role Confusion

224. Activities that involve whole-body movements, such as running and hopping, are essential for developing:
(A) Gross motor skills
(B) Fine motor skills
(C) Emotional regulation
(D) Cognitive schemas

225. A child's belief that their non-living toys have life and feelings is an example of:
(A) Conservation
(B) Animistic thinking
(C) Egocentrism
(D) Object permanence

226. The primary difference between 'rehabilitation' and 'habilitation' is that:
(A) Rehabilitation is for physical disabilities, while habilitation is for cognitive ones.
(B) Rehabilitation restores lost skills, while habilitation teaches skills for the first time.
(C) Rehabilitation is for adults, while habilitation is for children.
(D) There is no difference; the terms are synonymous.

227. A key challenge for the "sandwich generation" in middle adulthood is:
(A) Managing the competing demands of their children and their aging parents.
(B) Finding a first job.
(C) Developing a sense of identity.
(D) Coping with the physical changes of puberty.

228. The gradual decline in the function of the ovaries and the end of menstruation in middle-aged women is known as:
(A) Menarche
(B) Spermarche
(C) Menopause
(D) Andropause

229. A variable like 'level of education' (High School, Bachelor's, Master's, PhD) is best described as an:
(A) Interval variable
(B) Ratio variable
(C) Nominal variable
(D) Ordinal variable

230. A key feature of the formal operational stage of cognitive development is the ability to:
(A) Understand the principle of conservation.
(B) Develop object permanence.
(C) Think logically about abstract propositions and test hypotheses systematically.
(D) See the world only from one's own perspective.

231. In the context of ECCE, a 'developmentally appropriate' activity is one that is:
(A) The same for all children, regardless of age or ability.
(B) Suited to the age, individual abilities, and cultural context of the child.
(C) Challenging enough to cause frustration and struggle.
(D) Focused solely on preparing children for standardized tests.

232. An uninvolved parenting style is most likely to result in children who are:
(A) Socially competent and responsible.
(B) High-achieving but anxious.
(C) Happy and well-adjusted with high self-esteem.
(D) Impulsive and have poor self-regulation due to lack of parental monitoring and guidance.

233. The most immediate and critical need for a child rescued from trafficking is:
(A) To be provided with a safe, secure, and supportive environment.
(B) To be enrolled in a vocational training program.
(C) To be interviewed by the media to raise awareness.
(D) To be immediately returned to their village without any support.

234. A significant change in the parent-child relationship during adolescence is the shift towards:

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193. The central idea of Vygotsky's theory is that a child's cognitive development is advanced through:
(A) Independent exploration of the physical world.
(B) Social interaction with more skilled adults and peers.
(C) The resolution of unconscious psychosexual conflicts.
(D) A system of rewards and punishments.

194. In the context of ECCE, 'scaffolding' refers to:
(A) The physical structure of the classroom building.
(B) A teaching method where support is adjusted based on the child's level of performance.
(C) A permanent set of rules that never change.
(D) A type of playground equipment.

195. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Select the correct answer from the options that follow.
Assertion (A) : Play is often called "the work of childhood."
Reason (R) : Through play, children develop cognitive, physical, social, and emotional skills essential for their holistic development.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) Assertion A is true but Reason R is factually false.
(D) Assertion A is false but Reason R is factually true.

196. The most effective way to foster language skills in an early childhood setting is through:
(A) Silent, individual work.
(B) Grammar worksheets and drills.
(C) Rich verbal environments with conversation, reading, and singing.
(D) Watching non-interactive television programs.

197. A child who shows distress when their parent leaves and is easily soothed upon their return is demonstrating what type of attachment?
(A) Avoidant attachment
(B) Ambivalent attachment
(C) Disorganized attachment
(D) Secure attachment

198. The influence of the 'chronosystem' in Bronfenbrenner's model is seen in:
(A) A child's daily interaction with their parents.
(B) The cultural values of the society a child lives in.
(C) The impact of a major life event like a divorce on a child's development over time.
(D) The local government's policies on parks and recreation.

199. Read the following statements about the influence of peers on development:
1. Peers provide a source of information about the world outside the family.
2. Peer relationships are always a negative influence during adolescence.
3. Rejection by peers can be a serious risk factor for developmental problems.
4. Peers serve as agents for learning gender roles.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2 and 4 only
(D) 1, 2, 3, and 4

200. The primary goal of 'special education' is to:
(A) Remove children with disabilities from the mainstream education system entirely.
(B) Lower general academic standards for all students identified with disabilities.
(C) Focus exclusively on vocational skills while ignoring core academic subjects.
(D) Provide individualized instruction and support to help students succeed academically and functionally.

201. Which of the following is an example of an accommodation for a student with a learning disability in a regular classroom?
(A) Giving the student extra time to complete a test.
(B) Providing the student with the answers to the test.
(C) Excusing the student from all assignments.
(D) Placing the student in a different school.

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(A) Teaching children to write formal essays.
(B) Focusing solely on correct grammar and syntax.
(C) Encouraging verbal interaction, storytelling, and expanding vocabulary.
(D) Limiting children's talk time to ensure a quiet classroom.

165. A preschool teacher sets up a "doctor's office" in the classroom for children to play in. This type of activity is most beneficial for promoting:
(A) Rote memorization of medical terms.
(B) Fine motor skills only.
(C) Physical strength and endurance.
(D) Social skills, language use, and imaginative thinking.

166. A child who learns to tie their shoelaces is demonstrating an improvement in:
(A) Social cognition
(B) Gross motor skills
(C) Fine motor skills
(D) Language pragmatics

167. Which agent of socialization is typically most influential during adolescence for matters of style, taste, and social activities?
(A) Family
(B) Peer group
(C) School
(D) Mass media

168. The uninvolved parenting style is characterized by:
(A) High control and high warmth.
(B) Low control and high warmth.
(C) High control and low warmth.
(D) Low control and low warmth.

169. The concept of 'cultural capital', which can influence a child's school experience and personality development, refers to:
(A) The non-financial social assets (e.g., education, language, social norms) that promote social mobility.
(B) The amount of money a family has.
(C) The natural resources available in a community.
(D) A child's innate intelligence and talent.

170. Which of the following is an example of a secondary prevention measure for disabilities?
(A) A public health campaign about the dangers of smoking during pregnancy.
(B) Providing physical therapy to a child with cerebral palsy.
(C) A hearing screening program for all newborns to detect deafness early.
(D) Installing ramps in public buildings to ensure accessibility.

171. Match the terms in special needs in List-I with their corresponding descriptions in List-II.
List I: (Term in Special Needs)
P. Inclusion
Q. IEP
R. Rehabilitation
S. Prevention
List II: (Description)
1. A written plan detailing a student's special education services
2. Measures taken to stop a disability from occurring
3. Educating students with and without disabilities together
4. Restoring function and skills after an injury or illness
Choose the correct option:
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-1, R-4, S-2
(C) P-4, Q-3, R-1, S-2
(D) P-3, Q-2, R-4, S-1

172. The ultimate goal of rehabilitation for a person with special needs is to:
(A) Completely cure the underlying condition.
(B) Provide permanent custodial care.
(C) Ensure the person remains segregated from society for their own safety.
(D) Maximize independence and quality of life.

173. The most harmful and pervasive effect of child abuse is often the:
(A) Physical scars, which always heal.
(B) Damage to the child's sense of trust, self-worth, and ability to form healthy relationships.
(C) Loss of material possessions.
(D) Temporary disruption in schooling.

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(D) Confounding variable

212. What is the Fetal Stage of prenatal development primarily characterized by?
(A) Implantation of the zygote in the uterine wall.
(B) Formation of the major organs and body systems (organogenesis).
(C) Rapid growth in size and the maturation of organ systems.
(D) The fusion of sperm and egg to form a zygote.

213. When a child learns to adjust their understanding of "doggy" to exclude cats and include different breeds of dogs, they are using what Piagetian process?
(A) Assimilation
(B) Centration
(C) Egocentrism
(D) Accommodation

214. The 'nature vs. nurture' debate in human development is about:
(A) The difference between natural and artificial environments.
(B) The development of moral and immoral behaviors.
(C) The relative influence of genetics and environment on development.
(D) The contrast between physical and cognitive development.

215. In an ECCE setting, a teacher notices a child is having trouble sharing. The most appropriate response would be to:
(A) Immediately punish the child by taking away all toys.
(B) Model and gently guide the child in taking turns and sharing.
(C) Ignore the behavior, assuming the child will grow out of it.
(D) Label the child as "selfish" in front of the other children.

216. Which factor is NOT considered one of the primary agents of socialization?
(A) Family
(B) School
(C) Peer group
(D) Weather patterns

217. A key aspect of prevention of disabilities is promoting maternal and child health. This includes:
(A) Ensuring access to quality prenatal care, nutrition, and immunizations.
(B) Encouraging early marriage and childbirth.
(C) Limiting education for girls and women.
(D) Discouraging genetic counseling services.

218. Emotional abuse of a child can involve:
(A) Failing to provide adequate food or shelter.
(B) Striking a child with an object.
(C) Constant criticism, threats, and rejection that harm a child's self-worth.
(D) Engaging a child in exploitative labor.

219. One of the major cognitive advancements in adolescence is metacognition, which is the ability to:
(A) Think about one's own thinking process.
(B) Think about multiple things at once.
(C) Think only in concrete terms.
(D) Memorize large amounts of information.

220. The concept of "successful aging" is best defined as:
(A) The total absence of any physical ailments or chronic medical conditions.
(B) Living to be over 100 years old regardless of physical or cognitive state.
(C) Withdrawing from all social roles and community responsibilities entirely.
(D) Maintaining a high level of physical, social, and psychological well-being.

221. In a study on the effects of caffeine on reaction time, the 'dependent variable' is:
(A) The amount of caffeine consumed.
(B) The reaction time measured after caffeine consumption.
(C) The age of the participants.
(D) The time of day the experiment is conducted.

222. The Babinski reflex in a neonate involves:
(A) The infant turning its head toward a touch on the cheek.
(B) The infant grasping an object placed in its hand.
(C) The infant's toes fanning out and curling when the sole of the foot is stroked.
(D) The infant making a stepping motion when

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202. The concept of 'least restrictive environment' (LRE) in special education means that students with disabilities should be:
(A) Educated in separate settings to the maximum extent possible.
(B) Restricted from participating in extracurricular activities.
(C) Educated with their non-disabled peers to the maximum extent appropriate.
(D) Placed in the setting that is easiest for the teacher to manage.

203. Consider the following elements for a comprehensive approach to addressing the problem of child labour:
1. Strict enforcement of laws against child labour.
2. Addressing root causes like family poverty and lack of access to education.
3. Providing rehabilitation and educational opportunities for rescued children.
4. Ignoring the issue as a cultural norm.
5. Focusing only on punishment for employers without supporting families.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 2, 4, and 5
(C) 1, 3, and 5
(D) 1, 2, and 4

204. Which of the following represents a psychological consequence of child trafficking?
(A) Improved language skills from being in a new place.
(B) A strong sense of independence and self-reliance.
(C) Greater appreciation for one's family.
(D) Post-traumatic stress disorder (PTSD), anxiety, and depression.

205. The 'imaginary audience' phenomenon in adolescence helps explain why teenagers are often:
(A) Confident that they are invulnerable to harm.
(B) Highly self-conscious and concerned with their appearance.
(C) Able to think hypothetically.
(D) Eager to take on adult responsibilities.

206. According to James Marcia's theory of identity statuses, an adolescent who has explored various options but has not yet made a commitment is in a state of:
(A) Identity Diffusion
(B) Identity Foreclosure
(C) Identity Moratorium
(D) Identity Achievement

207. Which life stage is best described as a period of 'settling down' after the explorations of early adulthood, often involving career consolidation and increased responsibility?
(A) Adolescence
(B) Early Adulthood
(C) Late Adulthood
(D) Middle Adulthood

208. The decline in fluid intelligence during later adulthood means that an individual might have more difficulty with:
(A) Solving a novel, complex puzzle quickly.
(B) Recalling historical facts.
(C) Understanding vocabulary.
(D) Using wisdom gained from experience.

209. An older adult who looks back on their life with a sense of satisfaction and acceptance is experiencing what Erikson called:
(A) Stagnation
(B) Ego Integrity
(C) Despair
(D) Isolation

210. A researcher wants to know if the presence of a 'school counselor' (yes/no) in a school affects the 'rate of student dropout' (a percentage). In this study, the presence of a school counselor is what kind of variable?
(A) A continuous dependent variable
(B) A categorical independent variable
(C) A continuous independent variable
(D) A categorical dependent variable

211. When a researcher states that 'intelligence' will be measured by the score on the Wechsler Adult Intelligence Scale (WAIS), they are providing a(n):
(A) Operational definition
(B) Theoretical definition
(C) Conceptual definition

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(A) Complete dependence on parents.
(B) A breakdown of all communication.
(C) A more egalitarian relationship with renegotiated rules and greater autonomy for the adolescent.
(D) Parents making all decisions for the adolescent without consultation.

235. The physical and psychological changes associated with aging are best described as:
(A) A highly variable and individual process influenced by genetics, lifestyle, and environment.
(B) Uniform and predictable for every individual.
(C) A process that only begins after the age of 80.
(D) Exclusively negative and pathological.

236. A researcher wants to see if gender (male/female) influences the choice of college major (arts/science). In this study, 'gender' is the:
(A) Dependent variable
(B) Control variable
(C) Confounding variable
(D) Independent variable

237. The principle that growth follows a 'head-to-tail' pattern is the:
(A) Proximodistal principle
(B) Cephalocaudal principle
(C) Orthogenetic principle
(D) Sequential principle

238. In Bronfenbrenner's model, the interaction between a child's parents and their teacher is an example of the:
(A) Microsystem
(B) Exosystem
(C) Mesosystem
(D) Macrosystem

239. 'Holistic development' in early childhood means:
(A) Focusing only on the child's academic skills.
(B) Allowing children to develop without any adult guidance.
(C) Prioritizing physical development over all other domains.
(D) Recognizing the interconnectedness of physical, cognitive, social, and emotional development.

240. The main purpose of providing 'care and support' to persons with special needs is to:
(A) Enhance their capabilities and promote their inclusion in society.
(B) Isolate them to make management easier.
(C) Emphasize their disabilities and limitations.
(D) Provide a source of charity for the community.

241. 'Child abuse' is a broad term that includes all of the following EXCEPT:
(A) Physical abuse
(B) Providing consistent, loving discipline
(C) Neglect
(D) Sexual abuse

242. Identity achievement, according to Marcia, is characterized by:
(A) A lack of both exploration and commitment.
(B) Commitment following a period of exploration.
(C) Commitment without prior exploration.
(D) A state of active exploration without commitment.

243. The 'mid-life crisis', when it occurs, is often triggered by a growing awareness of:
(A) One's own mortality and the passage of time.
(B) New career opportunities.
(C) The challenges of raising teenagers.
(D) The joys of becoming a grandparent.

244. A key psychological task of late adulthood is:
(A) Developing an intimate relationship.
(B) Establishing a career.
(C) Conducting a 'life review' to come to terms with one's life.
(D) Forming a stable personal identity.

245. When a researcher ensures that all participants in a study have an equal chance of being assigned to the experimental or control group, they are using:
(A) Operational definition
(B) Variable selection
(C) Confounding
(D) Random assignment

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246. The three stages of prenatal development, in order, are:
(A) Embryonic, Fetal, Germinal
(B) Germinal, Fetal, Embryonic
(C) Germinal, Embryonic, Fetal
(D) Fetal, Germinal, Embryonic

247. The core idea of Erikson's theory of psychosocial development is that:
(A) Development is driven by unconscious sexual and aggressive urges.
(B) Thinking develops in a series of universal, invariant stages.
(C) Behavior is learned through reinforcement, punishment, and observation.
(D) Individuals must resolve a series of psychosocial crises at different stages of life.

248. The most significant influence of the family on personality development comes from:
(A) The quality of the parent-child relationship and the parenting style.
(B) The genetic material contributed by the parents.
(C) The socioeconomic status of the family alone.
(D) The number of books in the home.

249. Rehabilitation for a person with a newly acquired disability aims to:
(A) Return the person to their exact pre-disability state.
(B) Hide the disability from public view.
(C) Help the person adapt and achieve the highest possible level of functioning.
(D) Provide long-term custodial care only.

250. An adolescent's belief that "no one has ever been in love like this before" is an example of:
(A) The personal fable
(B) The imaginary audience
(C) Role confusion
(D) Identity foreclosure

Direction : Please read the following source carefully.

The principles of growth and development provide a foundational framework for understanding the trajectory of human life from conception through adulthood. Growth refers to the quantitative, measurable increase in physical size, such as height and weight, whereas development is a qualitative, progressive series of orderly, coherent changes leading towards maturity. A core principle is that development follows a predictable pattern, exemplified by the cephalocaudal and proximodistal trends. The cephalocaudal principle dictates that development proceeds from head to toe, with control over the head and upper body maturing before the lower parts. Conversely, the proximodistal principle suggests that development progresses from the center of the body outward to the extremities. Development is continuous but not always uniform; it occurs at different rates for different parts of the body and during different life stages, with rapid changes characteristic of the prenatal and neonatal periods. The significance of care during pregnancy is paramount, as the prenatal environment profoundly impacts fetal development. Maternal nutrition, health, and emotional well-being are critical factors. Following birth, the neonatal period is a time of major adaptation, where care focuses on establishing respiration, circulation, temperature regulation, and fostering early attachment, which is crucial for subsequent psychosocial development.

Based on the above source, attempt the following five questions.

251. According to the passage, what is the primary distinction between growth and development?
(A) Growth is qualitative and orderly, while development is quantitative and measurable.
(B) Growth refers to increases in physical size, while development encompasses qualitative changes toward maturity.
(C) Growth is a continuous process, whereas development occurs in distinct, separate stages.
(D) Growth pertains to psychosocial changes, while development is focused on physical maturation.

252. A child first gaining control over their neck muscles, then their torso, and finally their legs for walking is an example of which developmental principle?
(A) The cephalocaudal principle
(B) The proximodistal principle
(C) The principle of variable rates
(D) The principle of continuous development

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253. What can be inferred from the passage about the rate of human development?
(A) It remains constant and uniform throughout the entire lifespan.
(B) It accelerates significantly during adulthood and slows during infancy.
(C) It is an ongoing process with periods of more rapid change than others.
(D) It is a continuous process that proceeds at an unvarying pace.

254. The passage suggests that care during the neonatal period is primarily concerned with which of the following?
(A) Encouraging advanced cognitive skills and language acquisition.
(B) Introducing structured educational activities to foster maturity.
(C) Promoting fine motor skills and hand-eye coordination.
(D) Focusing on physiological adaptation and the establishment of early social bonds.

255. Based on the text, the proximodistal principle would suggest which pattern of motor skill acquisition?
(A) A child learns to write with a pencil before learning to wave their arms.
(B) A child learns to kick their legs before they can control their head.
(C) A child learns to control their torso and arms before learning to grasp with their fingers.
(D) A child learns to speak before they can control their trunk movements.

Direction : Please read the following source carefully.

The study of human development and behavior is enriched by a multitude of theories that offer distinct perspectives on the complex processes of change and stability across the lifespan. These theoretical frameworks act as lenses, guiding researchers and practitioners in understanding why individuals develop as they do. Psychodynamic theories, for instance, emphasize the profound influence of unconscious drives and early life experiences on personality and behavior. In contrast, behavioral theories posit that development is largely a product of learning through interaction with the environment, focusing on observable behaviors and the principles of conditioning and reinforcement. A third major perspective, the cognitive theory, centers on the development of thought processes, problem-solving, and information processing. It explores how individuals' understanding of the world changes as they mature and how these cognitive shifts influence their behavior. Finally, sociocultural theories highlight the critical role of social interaction, cultural context, and historical circumstance in shaping development. This perspective asserts that development is not a solitary journey but is deeply embedded within a larger social matrix, where cultural tools like language and customs are transmitted from one generation to the next, fundamentally shaping an individual's cognitive and social growth. Each theory offers valuable insights, and a comprehensive understanding often requires integrating concepts from multiple perspectives.

Based on the above source, attempt the following five questions.

256. Which theoretical perspective primarily attributes development to learning from environmental stimuli and consequences?
(A) Psychodynamic theories
(B) Behavioral theories
(C) Cognitive theories
(D) Sociocultural theories

257. According to the passage, what is the central focus of cognitive theories of human development?
(A) The impact of cultural context on personality.
(B) The influence of unconscious motives and early childhood.
(C) The role of conditioning and reinforcement in learning.
(D) The evolution of thought processes and mental operations.

258. The passage implies that a comprehensive understanding of human development is best achieved by:
(A) considering insights from various theoretical viewpoints.
(B) selecting one superior theory and disregarding the others.
(C) focusing exclusively on observable

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behaviors.
(D) prioritizing early life experiences over all other factors.

259. A researcher studying how children in different societies learn to use tools and language to solve problems is most likely operating from which theoretical standpoint?
(A) A psychodynamic perspective
(B) A behavioral perspective
(C) A sociocultural perspective
(D) A purely cognitive perspective

260. What key element distinguishes psychodynamic theories from behavioral theories as described in the text?
(A) Psychodynamic theories stress the role of the unconscious, while behavioral theories stress observable behaviors.
(B) Psychodynamic theories focus on observable actions, while behavioral theories focus on thought processes.
(C) Psychodynamic theories emphasize social interaction, while behavioral theories emphasize internal drives.
(D) Psychodynamic theories are concerned with the lifespan, while behavioral theories focus only on childhood.

Direction : Please read the following source carefully.

Early Childhood Care and Education (ECCE) represents a comprehensive approach to the development of children from birth to the age of eight. The fundamental goal of ECCE is to promote holistic development, which entails nurturing all facets of a child's growth and well-being in an integrated manner. This holistic framework encompasses several interdependent domains: physical-motor, cognitive, language, and socio-emotional development. Activities designed to promote this integrated growth must be developmentally appropriate, meaning they are tailored to the age, abilities, and cultural context of the children. For instance, promoting physical-motor skills might involve activities like running and jumping for gross motor development, and drawing or stringing beads for fine motor skills. Cognitive development is fostered through activities that encourage curiosity, problem-solving, and symbolic thought, such as puzzles, block-building, and imaginative play. Language skills are enhanced through storytelling, singing, and rich conversational interactions. Crucially, the socio-emotional domain is supported by creating a safe, nurturing environment where children learn to manage their emotions, build positive relationships with peers and adults, and develop empathy. High-quality ECCE programs recognize that play is a primary vehicle for learning and development, providing ample opportunities for unstructured and structured play to facilitate exploration and discovery, thereby ensuring a strong foundation for lifelong learning.

Based on the above source, attempt the following five questions.

261. What is the principal objective of Early Childhood Care and Education as described in the passage?
(A) To accelerate academic learning and early literacy.
(B) To focus solely on the physical health of young children.
(C) To prepare children for formal schooling through rigorous instruction.
(D) To encourage the integrated and all-round development of a child.

262. According to the text, an activity like storytelling primarily enhances which domain of development?
(A) Physical-motor development
(B) Language development
(C) Solely cognitive development
(D) Only socio-emotional development

263. The concept of "developmentally appropriate" activities in ECCE implies that activities should be:
(A) standardized for all children regardless of age or background.
(B) focused exclusively on preparing children for academic tests.
(C) suited to the specific age, capabilities, and cultural setting of the children.
(D) designed to challenge children far beyond their current abilities.

264. The passage suggests that the most effective medium for learning and development in early childhood is:

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(A) formal classroom instruction.
(B) repetitive drill and practice exercises.
(C) direct teaching of academic subjects.
(D) structured and unstructured play.

265. Fostering a child's ability to manage emotions and build positive relationships falls under which developmental domain mentioned in the source?
(A) The socio-emotional domain
(B) The cognitive domain
(C) The physical-motor domain
(D) The language domain

Direction : Please read the following source carefully.

The development of an individual's personality is not an isolated process but is profoundly shaped by a web of social influences. Key among these are the family, peers, school, community, and the broader culture. The family serves as the primary agent of socialization, where initial values, beliefs, and behavioral patterns are instilled. The quality of parent-child relationships and the family's socioeconomic status can have lasting effects on self-esteem and social competence. As a child's social world expands, peers become an increasingly significant influence, particularly during adolescence. Peer groups provide a context for developing social skills, forming an identity separate from the family, and learning about social norms and conformity. The school environment also plays a crucial role, not just through formal education, but also by exposing individuals to diverse perspectives and a structured system of rules and expectations that shape behavior and aspirations. Beyond these immediate contexts, the community and culture provide the overarching framework of norms, values, and ideologies. Cultural standards regarding achievement, interdependence, or individualism can powerfully influence personality traits and life goals. The community offers a sense of belonging and provides resources or, conversely, exposes individuals to risks that can impact their developmental trajectory. Therefore, personality is a dynamic construct, continuously molded by the interplay of these various social systems.

Based on the above source, attempt the following five questions.

266. According to the passage, which entity is considered the primary agent of socialization for an individual?
(A) The school
(B) The family
(C) The peer group
(D) The community

267. The influence of peer groups is described as being particularly significant during which stage of development?
(A) Early childhood
(B) Adolescence
(C) Middle adulthood
(D) Infancy

268. What role does the school environment play in personality development, beyond formal education?
(A) It introduces individuals to structured rules and diverse viewpoints.
(B) It primarily reinforces the values learned within the family.
(C) It isolates individuals from diverse social perspectives.
(D) It has no significant impact on aspirations or behavior.

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269. The passage suggests that culture influences personality mainly by:
(A) determining an individual's socioeconomic status.
(B) controlling the quality of parent-child relationships.
(C) providing a framework of overarching norms and values.
(D) replacing the influence of the family and peers.

270. Based on the source, which statement best describes the development of personality?
(A) It is a fixed trait determined entirely by genetic factors.
(B) It is a static process completed in early childhood.
(C) It is shaped exclusively by peer interactions during adolescence.
(D) It is a dynamic process influenced by multiple social contexts.

Direction : Please read the following source

ANSWERS

1. (B) A measurable, quantitative increase in physical size or mass.
In the field of human development, growth is specifically defined as the physical changes that occur within an individual over time. This process involves measurable, quantitative increases in body dimensions, such as height, weight, and overall mass. Unlike development, which encompasses qualitative improvements in functioning and skills, growth focuses strictly on the biological enlargement of various body parts and systems through cellular multiplication and expansion.

2. (A) Proximodistal principle
Human biological development follows specific patterns, including the tendency for growth to occur from the center of the body toward the outer extremities. This pattern dictates that internal organs and central structures develop and gain function before the limbs, fingers, and toes. Infants typically gain control over their torso and shoulders long before they achieve fine motor coordination in their hands, illustrating this outward progression.

3. (C) Development is predictable and follows an orderly pattern.
While every individual is unique, the overall process of human development follows a universal and predictable sequence. Changes occur in a specific order, meaning that certain milestones must be reached before more complex skills can emerge. This orderly progression allows caregivers and professionals to monitor progress effectively, identifying potential delays by comparing an individual's growth against established developmental norms and expected chronological sequences.

4. (D) Germinal Stage
The germinal stage represents the earliest phase of prenatal development, beginning at conception and lasting approximately two weeks. During this brief period, the fertilized egg undergoes rapid cell division as it travels toward the uterus. The stage concludes when the developing zygote successfully implants itself into the uterine wall, establishing a connection that will provide essential nutrients and support for future embryonic and fetal growth.

5. (C) Development rates are uniform for all individuals.
Human development is characterized by significant individual variation, meaning that the speed at which children reach milestones can differ greatly. While the sequence of development is generally universal, factors such as genetics, environment, and nutrition influence the specific timing. One child may walk earlier than average while another may talk later, demonstrating that developmental rates are unique to each person rather than being strictly uniform.

6. (B) The earliest growth always occurs at the top—the head.
The cephalocaudal principle describes a directional pattern of physical and motor development where growth and coordination proceed from the head downward toward the feet. This explains why an infant's brain and head are disproportionately larger than the rest of the body at birth. Motor control also follows this path, as infants typically master head and neck stability before they can sit up or walk.

7. (D) Neonatal period
The neonatal period encompasses the first twenty-eight days of a child's life, marking a time of intense physiological adjustment. During these initial weeks, the newborn must transition from a dependent existence within the womb to an independent life outside. This phase is critical as the infant's systems, including respiration and circulation, adapt to the new environment, requiring careful monitoring to ensure healthy survival and development.

8. (A) Teratogen
A teratogen is any environmental agent or substance capable of causing malformations or functional damage during prenatal development. Exposure to these substances, which include

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on the streets, or be part of street families, face extreme poverty, lack of access to education and healthcare, and are highly vulnerable to violence and exploitation. Children of destitute families and orphans lack the stable, nurturing family environment crucial for healthy development, often suffering from nutritional deficiencies, emotional neglect, and social marginalization. Furthermore, child abuse, which can be physical, emotional, or sexual, and child trafficking, the recruitment and movement of children for purposes of exploitation, represent grave violations of children's rights. These traumatic experiences can lead to severe and long-lasting psychological damage, developmental delays, and poor social adjustment. Addressing the plight of children at risk requires a multi-pronged approach involving legal protection, social support systems, rehabilitation services, and community-based interventions.

Based on the above source, attempt the following five questions.

276. According to the passage, what is a primary consequence of child labour?
(A) It deprives children of their childhood and is often harmful.
(B) It enhances a child's potential and dignity.
(C) It is beneficial for a child's physical and mental development.
(D) It provides a safe and nurturing work environment.

277. The passage identifies street children as a group that is particularly vulnerable to:
(A) over-nutrition and excessive healthcare.
(B) a stable family environment and formal education.
(C) social inclusion and community support.
(D) violence, exploitation, and lack of basic services.

278. Which common challenge is faced by both orphans and children of destitute families, as mentioned in the text?
(A) The presence of an overprotective family environment.
(B) The lack of a stable and nurturing home life.
(C) An abundance of nutritional and educational resources.
(D) The guarantee of legal protection against exploitation.

279. The source indicates that child abuse and trafficking can result in what long-term outcome for the victim?
(A) Enhanced social adjustment and emotional stability.
(B) Accelerated cognitive and physical development.
(C) Severe psychological trauma and developmental delays.
(D) A reduced risk of future exploitation.

280. Based on the passage, what type of strategy is required to effectively address the issues faced by children at risk?
(A) A singular focus on legal punishment for perpetrators.
(B) A strategy that relies solely on institutionalizing children.
(C) An approach that deals with each category of risk in complete isolation.
(D) A comprehensive approach combining legal, social, and community efforts.

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Direction : Please read the following source carefully.

Adolescence and youth represent a critical transitional period from childhood to adulthood, marked by profound and rapid changes across physical, cognitive, and psychosocial domains. Physically, this stage is characterized by puberty and a growth spurt, leading to sexual maturity and significant alterations in body composition. Cognitively, adolescents develop the capacity for abstract, hypothetical, and systematic thought, allowing them to ponder complex issues and future possibilities. However, this period also presents unique challenges. The quest for identity, autonomy, and peer acceptance can lead to conflicts with authority, risk-taking behaviors, and emotional volatility. Adolescents often grapple with body image concerns, academic pressures, and navigating new social and romantic relationships. To mitigate these challenges and foster positive outcomes, programs designed to promote optimal development are essential. Such programs often focus on building life skills, such as decision-making, communication, and stress management. They may also provide

energy.
(D) limiting nutrition to slow down metabolic processes.

293. The passage suggests what about cognitive function during the aging process?
(A) All cognitive abilities decline rapidly and uniformly.
(B) Crystallized intelligence and processing speed both improve significantly.
(C) Cognitive changes are non-existent in the elderly population.
(D) Processing speed may decrease, but experiential knowledge can remain strong.

294. What psychological challenge is identified in the passage as a risk for older adults?
(A) An overabundance of social engagement leading to stress.
(B) Feelings of loneliness and depression, often linked to life events.
(C) An inability to regulate emotional responses.
(D) A refusal to accept accumulated knowledge and experience.

295. Based on the source, promoting a sense of purpose and autonomy in older adults is a key aspect of which type of care?
(A) Primarily physical care
(B) Only nutritional management
(C) Psychological and well-being support
(D) Exclusively medical intervention

Direction : Please read the following source carefully.

In the study of human development, robust research methods are essential for generating valid and reliable knowledge. A cornerstone of designing empirical studies is the careful selection and definition of variables. Variables are any characteristics or attributes that can assume different values. A primary distinction is made between the independent variable (IV) and the dependent variable (DV). The independent variable is the factor that is manipulated or systematically varied by the researcher to observe its effect on another variable. The dependent variable, in turn, is the variable that is measured to assess the impact of the independent variable; it is the presumed effect or outcome. For example, in a study on the effect of a new teaching method on student performance, the teaching method is the independent variable, and student performance is the dependent variable. Beyond these, researchers must also consider extraneous variables—factors other than the independent variable that could potentially influence the dependent variable. The selection of variables is critical; they must be relevant to the research question and be operationally defined, meaning they must be specified in a way that is clear, concrete, and measurable. Proper selection and control of variables are crucial for establishing cause-and-effect relationships and ensuring the internal validity of a research study.

Based on the above source, attempt the following five questions.

296. In a research study, what is the role of the independent variable?
(A) It is the outcome that the researcher measures.
(B) It is a factor that is kept constant and never changed.
(C) It is an unintended factor that may influence the results.
(D) It is the variable that the researcher manipulates to observe an effect.

297. A researcher is studying whether the amount of sleep (in hours) affects memory recall in adolescents. In this study, memory recall is the:
(A) dependent variable.
(B) independent variable.
(C) extraneous variable.
(D) operational definition.

298. According to the passage, why is it important to consider extraneous variables?
(A) Because they are the primary variables being manipulated by the researcher.
(B) Because they can provide an alternative explanation for the study's results.
(C) Because they are the intended outcomes being measured.
(D) Because they are necessary to form an operational definition.

299. What does it mean to "operationally define" a variable?
(A) To choose a variable that is independent of all other factors.

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(C) The responsibility of caring for aging parents.
(D) The establishment of careers and intimate relationships.

287. The term "generativity," characteristic of middle adulthood, refers to the desire to:
(A) achieve personal and economic independence.
(B) focus exclusively on one's own needs and ambitions.
(C) contribute to and guide the next generation.
(D) return to the lifestyle of one's youth.

288. According to the text, the "sandwich generation" refers to middle-aged adults who are:
(A) caught between career ambitions and personal hobbies.
(B) simultaneously caring for their children and their aging parents.
(C) transitioning between early and late adulthood.
(D) dealing with both physical growth and cognitive decline.

289. The passage suggests that a primary developmental task of early adulthood is:
(A) preparing for retirement and reflecting on life.
(B) experiencing the onset of significant physical decline.
(C) mentoring younger colleagues in the workplace.
(D) building a foundational life structure around work and love.

290. What is a typical change that individuals experience as they move from early to middle adulthood?
(A) A shift from building a life to re-evaluating priorities.
(B) A decrease in responsibilities at work and home.
(C) An increase in physical vitality and peak performance.
(D) The initial formation of intimate partnerships.

Direction : Please read the following source carefully.

Aging is a natural, universal process that brings about a range of physical and psychological changes, necessitating specific care considerations for older adults. Physically, aging is associated with a gradual decline in the efficiency of bodily systems. This can manifest as reduced sensory acuity (e.g., vision and hearing loss), decreased muscle mass and bone density, a slower metabolism, and a less robust immune system. These changes increase vulnerability to chronic health conditions such as arthritis, hypertension, and heart disease. Consequently, the care needs of the elderly often revolve around managing these conditions, ensuring safety in the living environment to prevent falls, and promoting a healthy lifestyle through appropriate nutrition and gentle exercise. Psychologically, aging can present both challenges and strengths. While some cognitive functions, like processing speed, may slow down, accumulated knowledge and experience, often referred to as crystallized intelligence, can remain stable or even improve. Emotional regulation may also become more adept. However, older adults are at risk for psychological challenges such as depression, loneliness, and anxiety, particularly following major life events like retirement, loss of a spouse, or declining health. Care in this domain involves fostering social engagement, providing mental health support, and promoting a sense of purpose and autonomy to enhance overall well-being.

Based on the above source, attempt the following five questions.

291. According to the passage, which of the following is a common physical change associated with aging?
(A) An increase in muscle mass and bone density.
(B) A faster and more efficient metabolism.
(C) A decline in sensory acuity, such as hearing and vision.
(D) A stronger and more responsive immune system.

292. The care needs of the elderly, as described in the text, often focus on:
(A) managing chronic health conditions and ensuring safety.
(B) encouraging high-intensity physical training.
(C) promoting social isolation to conserve

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comprehensive health education, opportunities for positive youth engagement in community service or leadership roles, and mentorship to guide adolescents through this complex phase. The ultimate goal of these interventions is to support youth in successfully navigating the changes and challenges of adolescence, enabling them to emerge as healthy, competent, and responsible adults.

Based on the above source, attempt the following five questions.

281. Which of the following best describes the cognitive changes that occur during adolescence?
(A) The development of abstract and hypothetical thinking.
(B) A decline in the ability to think systematically.
(C) A focus solely on concrete, present-moment realities.
(D) The loss of ability to consider future possibilities.

282. According to the passage, what is a common psychosocial challenge faced by adolescents?
(A) A decreased need for peer acceptance.
(B) The quest for identity and autonomy.
(C) A reduced interest in social relationships.
(D) Complete emotional stability and predictability.

283. The passage suggests that programs for optimal youth development should focus on which of the following?
(A) Increasing academic pressures and competition.
(B) Building life skills and providing positive engagement opportunities.
(C) Isolating adolescents from their peers and community.
(D) Encouraging risk-taking behaviors to build resilience.

284. What is the primary physical characteristic of adolescence mentioned in the text?
(A) The onset of puberty and a growth spurt.
(B) A slowing of all physical growth.
(C) The stabilization of body composition.
(D) The decline of physical and motor skills.

285. What can be inferred as the main purpose of youth development programs as described in the source?
(A) To control and suppress all adolescent behaviors.
(B) To accelerate the transition into full adult responsibilities.
(C) To help youth manage developmental challenges and foster positive growth.
(D) To replace the role of the family and school in an adolescent's life.

Direction : Please read the following source carefully.

Adulthood, the longest stage of the human lifespan, is typically divided into early and middle phases, each with distinct characteristics and developmental tasks. Early adulthood, roughly spanning from the late teens or early twenties to around age forty, is characterized by peak physical vitality, the establishment of personal and economic independence, and the formation of intimate relationships. Key life events during this period often include completing education, starting a career, getting married, and beginning a family. The individual's focus is on building a life structure, which involves making crucial choices about work and love. As individuals transition into middle adulthood, generally from age forty to sixty-five, there is a noticeable shift in roles and responsibilities. While many are at the peak of their careers, they may also experience the onset of gradual physical declines, such as changes in vision, hearing, and metabolism. A defining characteristic of this stage is generativity, the desire to guide and contribute to the next generation, often expressed through parenting, mentorship, or community involvement. Middle-aged adults frequently find themselves in the "sandwich generation," simultaneously caring for their aging parents and their own children. This period involves a re-evaluation of life goals and an increased awareness of mortality, prompting changes in priorities and lifestyles.

Based on the above source, attempt the following five questions.

286. What is a key characteristic of early adulthood as described in the passage?
(A) A significant decline in physical vitality.
(B) The re-evaluation of life goals due to aging.

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(B) To specify the variable in a clear, concrete, and measurable manner.
(C) To allow the variable's definition to change throughout the study.
(D) To identify a variable that has no effect on the outcome.

300. Based on the passage, what is the main purpose of carefully selecting and controlling variables in a research study?
(A) To help establish cause-and-effect relationships and ensure validity.
(B) To ensure the study is easy and inexpensive to conduct.
(C) To make the research findings more ambiguous and open to interpretation.
(D) To increase the number of extraneous variables.

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carefully.

The field of human development acknowledges the diverse needs of all individuals, with a specific focus on children and persons with special needs. This category includes individuals with physical, developmental, behavioral, or sensory impairments that may require specialized care and support. The primary goal is to foster inclusion and maximize their potential for an independent and fulfilling life. Special education is a critical component of this support system, involving specially designed instruction, at no cost to parents, to meet the unique needs of a child with a disability. This goes beyond traditional teaching methods to include adapted materials, accessible environments, and individualized learning plans. A significant aspect of addressing special needs is the emphasis on the prevention of disabilities. This can involve prenatal screening, genetic counseling, proper maternal and child healthcare, and public health initiatives like immunization and nutritional programs. For individuals who already have a disability, rehabilitation becomes essential. Rehabilitation is a goal-oriented process that enables persons with disabilities to reach and maintain their optimal physical, sensory, intellectual, psychological, and social functional levels. It encompasses a wide range of services, including medical care, physiotherapy, occupational therapy, and vocational training, all aimed at promoting integration into the community and enhancing quality of life.

Based on the above source, attempt the following five questions.

271. What is the fundamental purpose of special education as described in the passage?
(A) To segregate children with special needs from mainstream schooling.
(B) To provide standardized instruction to all students uniformly.
(C) To offer specially designed instruction to meet the unique needs of a child with a disability.
(D) To focus solely on the physical rehabilitation of children.

272. The text suggests that the prevention of disabilities can be addressed through measures such as:
(A) limiting access to medical care and rehabilitation.
(B) promoting prenatal screening and public health programs.
(C) focusing only on vocational training after a disability occurs.
(D) encouraging the use of non-adapted educational materials.

273. According to the passage, rehabilitation for persons with special needs is best described as:
(A) a process limited to medical treatment and physiotherapy.
(B) a one-time intervention focused on a single impairment.
(C) a short-term care plan with no long-term goals.
(D) a goal-oriented process to optimize functional levels and social integration.

274. Based on the source, the overall approach to supporting persons with special needs emphasizes:
(A) inclusion, independence, and quality of life.
(B) exclusion and institutionalization.
(C) dependency and limited opportunities.
(D) a singular focus on intellectual disabilities.

275. The passage defines "special needs" as pertaining to impairments that are:
(A) exclusively physical in nature.
(B) only relevant during early childhood.
(C) physical, developmental, behavioral, or sensory.
(D) temporary and easily resolved without support.

Direction : Please read the following source carefully.

A significant concern within child development is the category of 'children at risk', which encompasses minors whose well-being and development are threatened by adverse circumstances. This includes several vulnerable groups, such as those involved in child labour, street children, children of destitute families, orphans, and victims of child abuse and trafficking. Child labour deprives children of their childhood, their potential, and their dignity, and is harmful to their physical and mental development by forcing them into work that is often hazardous and exploitative. Street children, who may live on the streets, work

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certain chemicals, drugs, viruses, or radiation, can lead to birth defects or long-term cognitive and behavioral issues. The timing and intensity of exposure are crucial, as different organs and systems are more vulnerable during specific critical periods of the gestational process.

9. (A) Both Statement I and Statement II are true.
Understanding human growth and development requires distinguishing between quantitative and qualitative changes. Growth is defined by measurable increases in physical aspects like height and mass, while development refers to the broader, qualitative shifts in functioning, skill acquisition, and behavioral complexity. Both concepts are essential for describing the transformation of an individual from infancy through adulthood, as physical enlargement typically supports the emergence of new capacities.

10. (A) Neural tube defects
Folic acid is a vital B vitamin required for proper cellular division and the early formation of the central nervous system during pregnancy. Adequate intake before and during the first few weeks of gestation is essential for the closure of the neural tube. Deficiency in this nutrient significantly increases the risk of serious congenital conditions affecting the brain and spinal cord, such as spina bifida.

11. (A) P-4, Q-1, R-3, S-2
Major psychological theories provide distinct frameworks for understanding development. Piaget focused on cognitive schemas, while Erikson explored psychosocial crises across the lifespan. Freud's psychoanalytic approach centered on psychosexual stages of personality development. Vygotsky emphasized the social nature of learning, introducing the zone of proximal development. Together, these theories offer a comprehensive view of how biological, cognitive, and social factors interact to shape the human experience over time.

12. (B) Assimilation
In cognitive development theory, the process by which individuals incorporate new experiences into existing mental structures is known as assimilation. This occurs when a child interprets a new object or event in a way that fits their current understanding of the world. It works alongside accommodation to maintain cognitive equilibrium, allowing the individual to make sense of new information without necessarily changing their pre-existing internal frameworks.

13. (C) Middle Adulthood: Intimacy vs. Isolation
Psychosocial theory outlines specific developmental challenges for different life stages. While infancy involves establishing trust and adolescence focuses on identity formation, the crisis of intimacy versus isolation is actually characteristic of early adulthood. During middle adulthood, the primary task is instead generativity versus stagnation, where individuals focus on contributing to society and guiding the next generation. Late adulthood concludes the lifespan with the challenge of ego integrity.

14. (D) Lev Vygotsky
Lev Vygotsky's sociocultural theory highlights the importance of social interaction in cognitive growth. A central concept is the zone of proximal development, which identifies the range of tasks an individual cannot yet perform alone but can accomplish with guidance from a more knowledgeable peer or adult. This framework emphasizes that learning is a social process and that appropriate support, or scaffolding, is necessary for optimal development.

15. (A) Both A and R are true and R is the correct explanation of A.
Ecological systems theory organizes environmental influences into nested structures based on their proximity to the individual. The microsystem represents the innermost level, consisting of the immediate settings where a person has direct, face-to-face interactions, such as the family, school, and peer group. Because these environments are where the most consistent and direct socialization occurs, they serve as the primary context for the individual's development and behavior.

16. (B) Pre-conventional Morality
Moral development progresses through levels of reasoning based on an individual's understanding of rules and social expectations. At the pre-conventional level, morality is externally controlled and focused on self-interest. Children and some adults at this stage determine

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and emotional barriers that prevent people from performing daily tasks, such as self-care, work, and leisure activities. By using therapeutic activities and environmental modifications, occupational therapists enable individuals to participate more fully in their roles and routines, enhancing their overall quality of life and productivity.

48. (B) Measures taken to avoid the occurrence of a disability or disease in the first place.
Primary prevention involves proactive measures designed to eliminate or reduce the risk factors that lead to disabilities before they occur. This includes public health initiatives such as immunizations, prenatal care, and nutritional programs. By addressing potential causes early, primary prevention aims to maintain the health and well-being of the population and prevent the onset of chronic conditions or impairments, thereby reducing the overall incidence of disabilities in society.

49. (A) Both Statement I and Statement II are true.
An Individualized Education Program is a fundamental legal document in special education that ensures every student with a disability receives an education tailored to their needs. Developed by a team including teachers and parents, it specifies the student's current performance, measurable annual goals, and the specific services to be provided. This structured plan provides accountability and a clear roadmap for the student's progress, ensuring they receive the support necessary for success.

50. (B) Specific learning disability
A specific learning disability is a neurological disorder that affects an individual's ability to process information. This condition is characterized by significant difficulties in specific academic areas such as reading, writing, or mathematics, despite having average or above-average intelligence. It is not caused by visual or hearing impairments or environmental factors. Early identification and specialized instructional strategies are essential to help students with learning disabilities succeed in academic and social settings.

51. (A) P-3, Q-4, R-1, S-2
Rehabilitation encompasses diverse specialized fields aimed at enhancing an individual's functional abilities. Physical therapy focuses on improving gross motor skills like mobility and balance, while speech therapy addresses communication and swallowing issues. Occupational therapy helps individuals master daily living tasks to increase independence. Vocational rehabilitation specifically prepares people with disabilities for entry or re-entry into the workforce. Together, these services provide a comprehensive framework for supporting an individual's recovery and community participation.

52. (C) Are more likely to experience poor developmental outcomes due to their circumstances.
The term "children at risk" describes individuals who face significant environmental or biological challenges that threaten their healthy development. These factors can include poverty, abuse, neglect, or lack of access to essential services. Without appropriate intervention and support, these children are at a higher risk for negative outcomes such as poor health, academic failure, or social problems. Identifying and supporting these children is a primary focus of social and educational programs.

53. (D) Work that deprives children of their childhood, potential, and dignity, while harming their development.
Child labor is defined as work that is mentally, physically, socially, or morally dangerous and harmful to children. It interferes with their schooling by depriving them of the opportunity to attend or by requiring them to attempt to combine school attendance with excessively long and heavy work. This exploitative practice prevents children from achieving their full potential and violates their fundamental rights, distinguishing it from light chores or educational internships.

54. (C) Both children living on the streets and those working on the streets who maintain family ties.
Street children are a diverse group facing unique challenges in urban environments. The term includes "children of the street," who live and sleep in public spaces with little to no family contact, and "children on the street," who spend most of their time working in the streets but return to a family home at night. Regardless

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on thinking and problem-solving. Language development covers communication skills, and social-emotional development involves building relationships and managing feelings. Because progress in one area often influences another, a comprehensive approach is necessary to ensure the child reaches their full potential.

25. (C) Play is a natural and intrinsically motivating activity for children.
Play is a fundamental vehicle for learning in early childhood because it aligns with how children naturally explore and understand their environment. It is an intrinsically motivated activity that allows children to practice new skills, solve problems, and interact socially without the pressure of formal instruction. Through play, children develop cognitive, physical, and social abilities, making it an essential component of any developmentally appropriate early childhood program.

26. (A) Fine motor skills
Fine motor skills involve the coordination of small muscles in the hands and fingers, typically in coordination with the eyes. Activities such as threading beads, using scissors, drawing, or buttoning clothing are specifically designed to strengthen these muscles and improve manual dexterity. Mastery of these skills is crucial for daily tasks and future academic activities like writing, making them a key focus in early childhood developmental programs.

27. (B) 2, 3, 4, 1
Gross motor development generally follows a predictable chronological sequence as children gain strength and coordination. Typically, infants first learn to roll over, which is followed by the ability to sit without support. Once stable while sitting, they begin to crawl to explore their environment. Finally, they achieve the balance and leg strength required for walking. This progression demonstrates the orderly nature of physical growth and maturation during infancy.

28. (B) A high teacher-child ratio with untrained staff
High-quality Early Childhood Care and Education programs are defined by several key features that support child well-being. These include a safe and stimulating environment, a curriculum tailored to developmental needs, and positive interactions between staff and children. Critically, quality programs require well-trained educators and a low teacher-to-child ratio, which ensures that each child receives individual attention and responsive care, unlike programs with insufficient or uncertified staffing.

29. (C) Cognitive development
Cognitive development in young children involves the ability to process information, reason, and understand patterns. Sorting activities, such as grouping objects by color, shape, or size, help children develop essential skills like categorization, comparison, and logical thinking. These tasks provide a foundation for mathematical concepts and problem-solving abilities. By engaging in these activities, children learn to organize their observations and make sense of the world around them.

30. (A) Both Statement I and Statement II are true.
The family serves as the primary agent of socialization, acting as the first and most enduring influence on an individual's life. Within the home, children receive their initial exposure to social norms, cultural values, and interpersonal behaviors. These early interactions shape the foundation of their personality and provide the basic skills necessary for navigating the wider world, highlighting the family's fundamental role in human development.

31. (B) P-2, Q-1, R-4, S-3
Parenting styles are categorized based on levels of demandingness and responsiveness. Authoritative parents balance high expectations with warmth, while authoritarian parents emphasize strict obedience with little emotional support. Permissive parents are highly responsive but set few limits, whereas uninvolved parents are low in both areas. Each style creates a different developmental environment, significantly influencing a child's social competence, self-esteem, and overall behavioral outcomes throughout their childhood and into adulthood.

32. (B) Peer pressure
As individuals move into adolescence, the influence of friends and contemporaries becomes increasingly significant. Peer pressure refers to the social influence exerted by a group to encourage

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right and wrong based solely on the immediate physical consequences of their actions, such as avoiding punishment or obtaining rewards, rather than internalizing societal standards or ethical principles.

17. (B) Social Learning Theory
Social learning theory emphasizes that human behavior is largely acquired through the observation and imitation of others. This perspective suggests that individuals learn new skills, attitudes, and social norms by watching models in their environment or in the media. By observing the outcomes of others' actions, learners can anticipate consequences for themselves, highlighting the powerful role that social context and modeling play in development.

18. (A) Ego
According to psychoanalytic theory, the personality is composed of three interacting components. The ego serves as the rational, decision-making part of the mind that mediates between the impulsive desires of the id and the moralistic demands of the superego. Operating on the reality principle, the ego seeks to satisfy the individual's needs in ways that are socially acceptable and practical within the constraints of the real world.

19. (C) 1, 2, and 4
Cognitive development theory suggests that children progress through universal, invariant stages of thinking. The sensorimotor stage is marked by the acquisition of object permanence, the understanding that items continue to exist when hidden. Adaptation occurs through assimilation and accommodation, the latter involving the modification of existing mental schemas to fit new information. In contrast, the ability to think abstractly and hypothetically only emerges later during the formal operational stage.

20. (D) Conservation
Conservation is the cognitive understanding that the fundamental properties of an object, such as its volume, mass, or number, remain the same even when its physical appearance changes. In early childhood, children often lack this ability because they focus on only one dimension of a situation, such as the height of a liquid, while ignoring other dimensions like width. This cognitive limitation is typical during the preoperational stage.

21. (C) Links between social settings where an individual lacks an active role but is still influenced by them.
In the ecological systems framework, the exosystem refers to social settings that influence an individual indirectly. Although the person is not an active participant in these environments, events occurring there can significantly impact their life. For example, a parent's workplace or local government policies are part of the exosystem. Changes in these settings, such as a promotion or new community regulations, can alter the person's immediate experiences and development.

22. (B) Holistic development of the child.
Early Childhood Care and Education focuses on providing a comprehensive foundation for young children. Rather than prioritizing narrow academic skills or rote learning, the primary goal is to foster growth across all developmental domains. This includes physical health, cognitive abilities, language acquisition, social interactions, and emotional well-being. By addressing the needs of the whole child, these programs ensure that individuals are well-prepared for future learning and life.

23. (B) 2, 3, and 4
Promoting holistic development in early childhood requires activities that engage the child's natural curiosity and diverse skills. Free play allows for exploration and social interaction, while storytelling and puppet shows enhance language and imagination. Nature walks provide sensory experiences and opportunities for discovery. In contrast, rigid academic drills and excessive screen time are less effective because they do not support the active, hands-on learning essential for young children.

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24. (A) Physical, cognitive, language, social, and emotional development
Holistic development in early childhood programs encompasses several interconnected domains that must be supported simultaneously. Physical development involves motor skills and health, while cognitive development focuses

40. (A) Interdependence, cooperation, and group harmony.
Collectivist cultures emphasize the importance of the group over the individual, valuing social cohesion and loyalty. Individuals raised in these environments are socialized to prioritize interdependence, cooperation, and the maintenance of group harmony. This cultural orientation shapes personality traits such as modesty and sensitivity to others' needs. In contrast, individualist cultures tend to foster independence and personal achievement, highlighting how broader cultural values influence the development of self and behavior.

41. (C) A child adopting the slang and clothing style of their friends.
Peer groups serve as a powerful influence on development, particularly as children seek to establish an identity separate from their families. Conformity to peer norms is often expressed through visible markers such as clothing styles, language use, and shared interests. This desire for group belonging and acceptance can drive individuals to adopt the behaviors and attitudes of their friends, illustrating how peers function as a significant agent of socialization and personality formation.

42. (A) Specially designed instruction to meet the unique needs of a child with a disability.
Special education is a tailored approach to instruction designed to address the unique learning requirements of students with various disabilities. Rather than being defined by a specific location, it is characterized by individualized strategies, adapted materials, and specialized support services. The goal is to ensure that all children, regardless of their physical or cognitive challenges, have equitable access to the curriculum and the opportunity to reach their full potential.

43. (A) 1, 2, and 4
Support for individuals with special needs involves a comprehensive approach including rehabilitation, prevention, and inclusion. Rehabilitation helps individuals regain or maximize functional independence, while prevention strategies like prenatal care reduce the occurrence of disabilities. Modern practice emphasizes inclusion within the community rather than segregation. Effective support is a lifelong commitment that adapts as the individual moves through different life stages, ensuring their continued participation and well-being.

44. (B) Rehabilitation
Rehabilitation is the process of providing medical, educational, and social interventions to help individuals with disabilities regain or improve functions lost due to injury or illness. The primary objective is to enable the person to achieve the highest possible level of physical, sensory, and psychological functioning. This comprehensive process often involves a team of professionals working together to support the individual's independence and integration into community life.

45. (C) Behavioral preference
Disabilities are generally categorized based on significant impairments that affect major life activities. Primary categories include physical disabilities, which involve mobility or bodily function, and cognitive disabilities, which affect intellectual and learning processes. Sensory impairments, such as visual or hearing loss, are also major categories. In contrast, personal behavioral preferences or lifestyle choices do not constitute a disability, as they are not rooted in a functional or physiological impairment.

46. (D) Educating children with special needs alongside their non-disabled peers in regular classrooms.
Inclusion is an educational philosophy and practice that emphasizes the right of all students to be educated in the general education environment. It involves providing necessary supports and accommodations within the regular classroom so that students with disabilities can learn alongside their non-disabled peers. This approach promotes social integration, reduces stigma, and encourages a diverse learning community where all students can benefit from shared experiences and a common curriculum.

47. (A) Develop and recover the skills needed for daily living and working.
Occupational therapy is a specialized rehabilitation service that focuses on helping individuals achieve independence in all areas of their lives. It addresses physical, cognitive,

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individuals to change their attitudes, values, or behaviors to conform to group norms. This influence can lead to positive outcomes, such as academic motivation, or negative consequences, such as risk-taking behavior, depending on the nature and values of the peer group.

33. (B) By providing a structured setting for social interaction, learning rules, and interacting with authority figures.
Schools play a vital role in personality development by offering a social context beyond the family. Through interactions with diverse peers and teachers, children learn to navigate complex social hierarchies, follow established rules, and respect authority figures. This structured environment encourages the development of self-discipline, cooperation, and social skills. The "hidden curriculum" of the school also reinforces societal values and expectations, shaping the child's self-concept and identity.

34. (A) The transmission of values, beliefs, customs, and gender roles.
Culture provides the overarching framework within which socialization occurs, significantly shaping an individual's personality. Through various agents, culture transmits shared values, beliefs, and behavioral expectations to the next generation. This includes the definition of gender roles and social customs. These cultural influences determine what behaviors are considered desirable or taboo, providing a sense of identity and belonging while guiding the individual's interactions within their specific society.

35. (A) Both A and R are true and R is the correct explanation of A.
The authoritative parenting style is widely recognized as the most effective approach for fostering healthy child development. By combining clear expectations and consistent discipline with high levels of warmth and open communication, parents create a supportive environment. This balance allows children to feel secure while learning self-regulation and social responsibility. Consequently, children raised with this style often demonstrate higher levels of self-esteem, social competence, and academic success.

36. (D) Permissive
Permissive parenting is characterized by a high degree of warmth and emotional responsiveness but a lack of firm control or demands. Parents using this style tend to be very nurturing and accepting, often behaving more like friends than authority figures. Because they set few rules and rarely enforce consequences, children in these households may struggle with self-discipline and authority, although they often feel very secure in their parents' affection.

37. (C) Socialization
Socialization is the lifelong process through which individuals acquire the knowledge, skills, and dispositions that enable them to participate effectively in their society. It involves learning cultural norms, values, and social roles from various agents such as family, peers, and media. This process is essential for the continuity of culture and the development of a functional social identity, allowing individuals to navigate their social environment successfully.

38. (B) The quality of neighborhood resources like parks, libraries, and safety.
The community environment significantly influences personality development by providing the physical and social context for daily life. High-quality neighborhood resources, such as safe parks, well-equipped libraries, and community centers, offer opportunities for enrichment, social interaction, and healthy recreation. Conversely, lack of safety or resources can limit developmental opportunities and increase stress. These community factors interact with family and school influences to shape an individual's sense of security and social connection.

39. (D) 1, 2, 3, and 4
Personality development is a complex process influenced by multiple agents of socialization. The family provides the initial foundation, while the school introduces formal rules and broader social circles. Peer groups offer a context for developing independence and social skills outside of adult supervision. Mass media also plays a significant role by transmitting cultural values, stereotypes, and behavioral models. Together, these agents interact to shape an individual's self-concept, values, and behavior.

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of their living situation, all these children are vulnerable to exploitation, violence, and lack of basic services.

55. (A) Both A and R are true and R is the correct explanation of A.
Child abuse is a traumatic experience that has profound and enduring effects on an individual's development. Experiences of physical, emotional, or sexual abuse can disrupt the biological processes of brain development and the psychological formation of healthy attachments. These disruptions often lead to long-term difficulties with emotional regulation, social relationships, and mental health. Understanding these connections is crucial for developing effective prevention and intervention strategies to support the recovery and well-being of survivors.

56. (D) The child is living in extreme poverty without basic necessities like food, shelter, or care.
Destitution describes a state of extreme poverty where a child lacks the most fundamental resources required for survival and healthy growth. While other at-risk categories may involve specific forms of exploitation or family loss, a destitute child suffers from a comprehensive lack of food, clothing, adequate shelter, and basic care. This severe deprivation places the child in immediate physical danger and significantly hinders every aspect of their biological and psychological development.

57. (A) Whose parents are deceased, unknown, or have permanently abandoned them.
An orphan is a child who has lost one or both parents through death, disappearance, or permanent abandonment. The absence of parental care and protection makes these children highly vulnerable to various risks, including poverty and exploitation. Legal and social systems are designed to provide alternative care, such as adoption or foster care, to ensure that orphans receive the stability and support necessary for their continued development and well-being.

58. (C) All street children are orphans with no family connections.
A common misconception is that all street children are orphans. In reality, many children living or working on the streets maintain some connection with their families. Some work to support their households, while others may have run away from difficult home situations. Understanding the diverse family backgrounds of street children is essential for creating effective interventions that prioritize family reunification when safe and providing appropriate alternative support when family ties are permanently broken.

59. (A) 1 and 3
Child labor has severe negative impacts on a child's overall development and future opportunities. It primarily denies them the right to an education and the chance to develop skills necessary for better employment later in life. Furthermore, child laborers are often exposed to hazardous working conditions that can lead to physical injury and chronic health problems. These factors create a cycle of poverty and exploitation that prevents the child from achieving holistic well-being.

60. (D) Exploitation.
Child trafficking is a severe human rights violation that involves the illegal recruitment and movement of children through force, fraud, or coercion. The ultimate purpose of trafficking is exploitation, which can take many forms, including forced labor, domestic servitude, or sexual exploitation. Trafficked children are subjected to extreme physical and psychological trauma, requiring intensive protection and specialized support services to ensure their safety and aid in their recovery from such devastating experiences.

61. (B) Offering protection, education, healthcare, and opportunities for family reintegration.
Effective interventions for street children must be comprehensive and person-centered. Rather than simply removing them from the streets or providing temporary financial aid, programs should focus on providing a safe environment, essential healthcare, and access to education. A key goal should be exploring the possibility of safe family reintegration. By addressing the underlying causes of their situation and providing long-term support, these interventions aim to provide children with a path to a stable future.

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77. (B) Accepting and adjusting to the physiological changes of aging
Early adulthood focuses on establishing a foundation for the future through mate selection, career initiation, and achieving financial independence. These tasks are centered on building an independent life and exploring new roles. In contrast, adjusting to the physical decline and physiological changes associated with aging is primarily a developmental task of middle and late adulthood. Understanding these distinct stage-specific goals helps in recognizing the primary focus of development throughout the various phases of adult life.

78. (C) A period of emotional turmoil marked by a desire for change and questioning past decisions.
The concept of a mid-life crisis describes a psychological transition that some individuals experience during their middle years. It is characterized by intense self-reflection, emotional turmoil, and a perceived urgency to make significant life changes. This period often involves questioning past career and relationship choices as individuals confront their own mortality and the limits of their time. While not an inevitable or universal stage, it represents a meaningful process of adaptation for many adults.

79. (A) 1, 2, and 3
Middle adulthood is a complex stage marked by multiple, often simultaneous, responsibilities. It typically involves launching children into independence while simultaneously caring for aging parents, a dual role known as the sandwich generation. Professionally, many individuals reach the peak of their careers during these years. In contrast, the initial exploration of career choices is a task more characteristic of early adulthood, illustrating how roles and priorities shift as individuals progress through the lifespan.

80. (A) Generativity vs. Stagnation
Erikson's theory identifies the primary challenge of middle adulthood as the conflict between generativity and stagnation. Generativity involves a commitment to guiding the next generation and making meaningful contributions to society through work, parenting, or community service. Individuals who fail to achieve this sense of productivity may experience stagnation, a feeling of being stuck or having made no significant impact. Successful resolution leads to the virtue of care and a sense of fulfillment.

81. (B) A concern for establishing and guiding the next generation.
Generativity is a core psychological concept in middle adulthood that focuses on leaving a positive legacy. It goes beyond biological parenting to include any activity that contributes to the well-being of future generations, such as mentoring, teaching, or creative work. This outward focus allows individuals to transcend self-interest and find meaning in their contributions to society. A lack of generativity can lead to a sense of purposelessness, highlighting its importance for healthy adult development.

82. (B) Gerontology
Gerontology is the multidisciplinary study of the aging process and the challenges faced by older adults. It encompasses the biological, psychological, and social aspects of growing older, providing a comprehensive understanding of how individuals age and how societies can support them. This field differs from geriatrics, which focuses specifically on the medical care of the elderly. Gerontology aims to improve the quality of life for the aging population through research, policy, and practice.

83. (C) 1, 2, and 3
Aging involves a complex set of cognitive and physical changes. While fluid intelligence, the ability to solve new problems, tends to decline, crystallized intelligence, which is based on accumulated knowledge and experience, often remains stable or increases. Sensory acuity, including vision and hearing, typically decreases over time. However, motor responses generally slow down rather than speed up, and dementia is not a universal outcome of aging, highlighting the diverse ways individuals experience this process.

84. (C) The biological process of aging and the gradual deterioration of functional characteristics.
Senescence refers to the inevitable biological process of aging that occurs at the cellular and systemic levels. It is characterized by the gradual decline in the body's functional capabilities and its ability to respond to stress. This process affects

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and their place in society. Failure to navigate this period effectively can result in role confusion, where the individual remains uncertain about their identity and future direction in life.

70. (D) Statement I is false, but Statement II is true.
Brain development continues throughout adolescence, with different regions maturing at different rates. The prefrontal cortex, which governs higher-level functions such as judgment, impulse control, and long-term planning, is one of the last areas to fully mature, often not until the mid-twenties. This developmental lag compared to the earlier maturing emotional centers of the brain can help explain why adolescents may be more prone to impulsive, emotional, and risk-taking behaviors during this period.

71. (B) P-2, Q-4, R-1, S-3
Adolescence involves specific cognitive and social challenges related to self-perception and identity. The imaginary audience refers to the belief that one is always being watched, while the personal fable involves a sense of unique invulnerability. Identity foreclosure occurs when an individual adopts an identity without exploration, often based on parental expectations. Role confusion represents the inability to develop a stable sense of self. Each of these concepts highlights different aspects of the complex journey toward adulthood.

72. (D) Early Adulthood
Early adulthood is a major life stage characterized by several significant transitions and the establishment of independent adult roles. During this period, individuals typically focus on launching and consolidating their careers, forming intimate long-term relationships, and often beginning their own families. This stage involves achieving greater financial independence and making choices that set the foundation for their future. It is a time of both great exploration and the assumption of enduring adult responsibilities.

73. (A) Are financially supporting both their children and their aging parents.
The "sandwich generation" refers to middle-aged adults who find themselves simultaneously caring for their own growing children and their aging parents. This unique position often leads to significant financial, emotional, and physical strain as they balance the diverse needs of two different generations. As life expectancy increases and children remain dependent longer, more individuals are experiencing this dual caregiving role, highlighting the complex responsibilities that often characterize the middle years of adulthood.

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74. (C) A re-evaluation of life goals and priorities, sometimes leading to a "mid-life crisis".
Middle adulthood is a period of reflection and transition. As individuals become more aware of the passage of time and their own mortality, they may re-evaluate their past choices and future goals. This period of introspection can lead to significant changes in career, relationships, or lifestyle, a phenomenon sometimes referred to as a "mid-life crisis." While not universal, this process of re-evaluation is a common feature of the psychological landscape during the middle years of life.

75. (A) Both A and R are true and R is the correct explanation of A.
According to psychosocial theory, the ability to form deep, intimate relationships in early adulthood depends on the successful resolution of the identity crisis in adolescence. A strong, stable sense of self allows an individual to share their life with another person without fear of losing their own identity. Without this foundation, the individual may struggle with intimacy, leading to feelings of isolation. This connection highlights the cumulative nature of development, where each stage builds upon the previous one.

76. (D) Individuals often take on leadership roles at work and in the community.
Middle adulthood is typically a time of peak professional and social influence. Having gained significant experience and expertise, individuals in this stage often assume leadership positions within their workplaces and communities. They may serve as mentors to younger generations and take on greater responsibilities in civic and social organizations. This increased influence and productivity reflect the psychosocial theme of generativity, where the focus is on contributing to society and supporting the growth of others.

62. (C) Adolescence
Adolescence is a unique and complex developmental period that bridges the gap between childhood and adulthood. It is characterized by significant physical changes during puberty, advancements in cognitive abilities such as abstract thinking, and intense social and emotional exploration. During this phase, individuals strive for independence and the formation of a personal identity. Understanding this transition is essential for providing the appropriate support and guidance needed to navigate the challenges of this stage.

63. (A) 1, 2, and 3
Adolescence is frequently marked by a series of psychological and social challenges as individuals seek to establish their own identities. This process can lead to identity crises and increased conflict with parents as the adolescent pushes for greater autonomy. Peer pressure also becomes a dominant force, influencing behavior and choices. While these experiences are common, the period is also characterized by emotional fluctuations, making it a time of significant transition and potential vulnerability.

64. (A) Menarche in girls and spermarche in boys.
Puberty is the biological process of reaching sexual maturity, signaled by specific physiological events. For girls, menarche, the first menstrual period, is a key marker, while for boys, spermarche, the first ejaculation, signifies this transition. These events are the culmination of a series of hormonal changes that result in rapid physical growth and the development of secondary sexual characteristics. These biological markers represent a definitive shift from the childhood state toward reproductive maturity.

65. (B) The imaginary audience and the personal fable.
Adolescent egocentrism involves a heightened self-focus and a unique way of perceiving how others see them. David Elkind identified two key components: the imaginary audience, where the adolescent believes everyone is as preoccupied with their behavior and appearance as they are, and the personal fable, the belief that their experiences are unique and that they are invulnerable to harm. These cognitive distortions significantly influence adolescent behavior, emotions, and social interactions.

66. (B) Providing opportunities for leadership, skill-building, and community involvement.
Positive youth development programs focus on fostering the strengths and potential of young people. By providing opportunities for leadership, practical skill-building, and active community involvement, these programs encourage a sense of competence and social responsibility. This proactive approach helps adolescents develop a positive identity and build resilience, steering them toward productive adulthood. Rather than isolating them, these programs empower youth to become engaged and contributing members of their communities and society.

67. (A) 1, 2, 3, 4
In males, pubertal development typically follows an orderly sequence of biological changes. The process often begins with the growth of the testes and scrotum, followed by the appearance of pubic hair. Later, individuals experience their first ejaculation, or spermarche. The peak of the height spurt generally occurs toward the end of these primary changes. Understanding this typical sequence is important for recognizing normal growth patterns and identifying potential concerns during this developmental transition.

68. (C) Their own experiences are unique and they are invulnerable to potential harm.
The personal fable is a cognitive distortion common in adolescence, characterized by an exaggerated sense of personal uniqueness and invincibility. Individuals may believe that no one else can understand their intense feelings or that they are immune to the negative consequences of risky behaviors. This sense of invulnerability can lead to increased experimentation and risk-taking, as the adolescent believes that standard rules and dangers do not apply to them in the same way.

69. (D) Identity vs. Role Confusion
Erikson's psychosocial theory identifies identity formation as the central task of adolescence. During this stage, individuals explore different roles, values, and beliefs to develop a stable and coherent sense of self. A successful resolution leads to a clear understanding of who they are

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all organ systems, leading to changes in physical appearance, sensory perception, and overall health. While senescence is a natural part of the life cycle, its rate and impact can be influenced by genetics and lifestyle factors.

85. (D) Loneliness and social isolation
As individuals enter late adulthood, they may face significant social changes, such as retirement and the loss of friends or spouses. These factors can lead to increased loneliness and social isolation, which are major psychological challenges for the elderly. Maintaining social connections and finding new ways to engage with the community are essential for mental health and well-being. Addressing these social needs is a critical component of providing comprehensive care and support for the aging population.

86. (C) Crystallized intelligence increases, while fluid intelligence decreases.
Cognitive aging is characterized by a distinct pattern of change in different types of intelligence. Fluid intelligence, which involves abstract reasoning and processing speed, typically begins to decline in early or middle adulthood. Conversely, crystallized intelligence, which relies on accumulated knowledge, vocabulary, and experience, often continues to grow or stay stable well into late adulthood. This means that while older adults may process new information more slowly, they often possess greater wisdom and practical knowledge.

87. (B) Interventions for resolving childhood conflicts.
Care for the aging population primarily focuses on addressing the immediate and emerging needs associated with late adulthood. This includes managing chronic health conditions, providing support for social engagement to prevent isolation, and assisting with daily activities. While psychological well-being is important, resolving deep-seated conflicts from childhood is generally not a primary focus of elderly care unless they significantly impact current functioning. Instead, support is directed toward maintaining autonomy, dignity, and quality of life in the present.

88. (D) Ego Integrity vs. Despair
The final stage of Erikson's theory occurs in late adulthood and involves a retrospective look at one's life. Individuals who feel a sense of satisfaction and believe their life has been meaningful achieve ego integrity. This leads to the virtue of wisdom and an acceptance of the end of life. Those who view their past with regret or feel they have failed to reach their goals may experience despair, characterized by bitterness and fear of death.

89. (A) Hearing
Presbycusis is a common age-related physical change characterized by a gradual and progressive loss of hearing. It typically affects both ears and is often most noticeable in the inability to hear high-pitched sounds or understand speech in noisy environments. This decline is caused by the natural aging of the auditory system and can significantly impact an individual's social interaction and quality of life. Understanding and addressing this common condition is essential for supporting the elderly.

90. (C) Statement I is true, but Statement II is false.
Aging is a highly heterogeneous process, meaning there is significant individual variation in how people experience physical and psychological changes as they grow older. While certain biological declines are common, the rate and pattern of these changes are influenced by a complex interplay of genetics, lifestyle choices, and environmental factors. Two people of the same age can have vastly different health profiles and functional abilities, highlighting the importance of personalized approaches to care and support.

91. (B) P-2, Q-1, R-4, S-3
Gerontology explores several key concepts related to the cognitive, physical, and psychological aspects of aging. Fluid intelligence involves reasoning and problem-solving, while crystallized intelligence is based on accumulated knowledge. Physical changes like presbyopia affect sensory functions like near vision. Psychologically, ego integrity represents the sense of fulfillment individuals strive for in late adulthood. Each of these concepts provides a different perspective on the multifaceted experience of growing older and the factors that contribute to successful aging.

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92. (D) Independent variable
In experimental research, the independent variable is the factor that the researcher deliberately manipulates or varies to test its effects. It is considered the hypothesized cause of any observed changes in the outcome. By controlling this variable, researchers can determine whether it has a direct influence on another factor. Identifying and accurately manipulating the independent variable is fundamental to establishing causal relationships and ensuring the validity and reliability of the research findings.

93. (B) Student performance
In research, the dependent variable is the outcome or response that the researcher measures to see if it changes because of the experimental manipulation. In a study on teaching methods, the goal is to observe how different instructional techniques affect student performance. Therefore, student performance is the dependent variable, as its value is expected to depend on which teaching method was used. Accurately measuring this variable is essential for evaluating the effectiveness of the intervention.

94. (C) Confounding variable
A confounding variable is an extraneous factor that correlates with both the independent and dependent variables, potentially leading to a false or distorted conclusion about their relationship. If not properly controlled, these variables can suggest a causal link where none exists or obscure a true one. In research design, identifying and minimizing the influence of potential confounders is critical for ensuring internal validity and drawing accurate conclusions about the specific effects being studied.

95. (A) Both A and R are true and R is the correct explanation of A.
Experimental research aims to establish clear cause-and-effect relationships between variables. To achieve this, researchers must control for extraneous variables, which are factors other than the independent variable that could influence the outcome. If these variables are not managed, they can lead to incorrect conclusions, as the researcher cannot be certain whether the observed results were caused by the manipulation or by these uncontrolled factors. Proper control is therefore essential for ensuring the study's validity.

96. (A) Categorical variables
Categorical variables are those that represent distinct groups or qualities rather than numerical amounts. Characteristics such as gender, marital status, race, or type of occupation are prime examples, as they classify individuals into separate, non-overlapping categories. These variables do not have a natural numerical order or measurable distance between them. In research, they are essential for comparing different groups and understanding how various demographic or qualitative factors influence the phenomena under investigation.

97. (B) Control variable
A control variable is an extraneous factor that a researcher intentionally keeps constant during an experiment to prevent it from influencing the results. By ensuring that these variables do not change, the researcher can more accurately isolate the relationship between the independent and dependent variables. Proper use of control variables is essential for maintaining the integrity of the experiment and ensuring that the observed effects are truly due to the experimental manipulation being tested.

98. (B) Height in centimeters
Continuous variables are those that can take on any numerical value within a specific range and can be measured with great precision. Examples include height, weight, time, and temperature. Unlike categorical variables, which place individuals into discrete groups, continuous variables provide quantitative data that can be analyzed using a wide range of statistical tests. Their ability to represent fine differences makes them highly valuable for detailed scientific measurements and for tracking subtle changes in research studies.

99. (A) 1, 2, and 3
Selecting appropriate variables is a critical step in research design. Variables must be directly relevant to the research question and must be measurable to allow for systematic analysis. Furthermore, each variable must be clearly and specifically defined through operationalization, ensuring that other researchers can understand

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and replicate the study. While variables can be categorical, they do not have to be, as many important developmental factors are continuous in nature, such as age or score.

100. (C) Operationalization
Operationalization is the process of translating abstract concepts into specific, observable, and measurable terms for the purpose of research. It involves defining exactly how a variable will be measured or manipulated in a particular study. For example, "intelligence" might be operationalized as a score on a specific standardized test. This step is essential for ensuring clarity, allowing for empirical testing, and enabling other scientists to replicate the study and verify its findings accurately.

101. (D) Categorical independent variable
In a study investigating the impact of income on academic success, family income level functions as the independent variable because it is the hypothesized cause being examined. Since it is organized into discrete groups—low, middle, and high—it is classified as a categorical variable. The researcher compares these groups to see how they differ in the outcome of interest, which is academic achievement. This design allows for the analysis of how different socioeconomic backgrounds influence developmental results.

102. (C) It is a time of major physiological adjustment to life outside the womb.
The neonatal period, covering the first month of life, is uniquely critical because it requires the newborn to rapidly adapt to a radically different environment. The infant must establish independent functions such as breathing, circulation, and temperature regulation, which were previously supported by the mother. This transition involves significant biological stress and vulnerability. Successful adjustment during this period is a fundamental prerequisite for all subsequent physical, cognitive, and social development in the child's life.

103. (B) 2, 3, and 5
Human development is governed by several core principles that describe its nature and progression. It is a continuous process that begins at conception and continues throughout the entire lifespan. Development follows a predictable and orderly sequence, and it generally moves from broad, general responses to more refined, specific behaviors. While development is influenced by both heredity and environment, and individual rates vary significantly, these fundamental principles provide a universal framework for understanding the human journey.

104. (D) An innate, automatic response to a specific stimulus
Reflexes are involuntary, automatic responses to specific stimuli that are present at birth. The Moro reflex, for example, is a startle response where the infant throws back their head and extends their arms and legs in response to a sudden loud noise or a sense of falling. These innate behaviors are essential indicators of the health and maturation of the infant's nervous system. As the brain develops, many of these primitive reflexes are eventually integrated or replaced by voluntary actions.

105. (A) Heavy alcohol consumption
Behavioral teratogens are substances that mothers consume or behaviors they engage in that can cause damage to the developing fetus. Heavy alcohol consumption is a prime example, as it can lead to a range of physical and cognitive impairments known as fetal alcohol spectrum disorders. Unlike beneficial behaviors like exercise or a balanced diet, exposure to these harmful substances, especially during critical periods of development, can have permanent and devastating consequences for the child's health and future functioning.

106. (A) Both Statement I and Statement II are true.
The embryonic stage, lasting from the third to the eighth week of pregnancy, is a period of rapid development where all major organ systems begin to form. Because this is a time of intense organogenesis, the developing organism is exceptionally vulnerable to external influences. Exposure to teratogens during this critical period can cause significant and often irreversible structural damage to the heart, brain, and other vital organs, highlighting the importance of a healthy prenatal environment during early pregnancy.

107. (B) 2, 3, 1

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136. (D) Puberty
Puberty is the specific period of biological development during which an individual reaches sexual maturity. It is marked by rapid physical growth, known as the growth spurt, and significant hormonal changes that lead to the development of secondary sexual characteristics and the ability to reproduce. These biological changes are a universal feature of the transition from childhood to adolescence and have profound effects on the individual's self-perception, social interactions, and overall psychological and emotional development.

137. (A) Hypothetico-deductive reasoning
During the formal operational stage, adolescents develop the ability to think abstractly and use hypothetico-deductive reasoning. This cognitive advancement allows them to generate multiple hypotheses about a problem, think about possibilities rather than just realities, and systematically test their ideas to reach a logical conclusion. This more sophisticated way of thinking enables adolescents to engage in complex problem-solving and philosophical reflection, marking a significant shift from the more concrete thinking of younger children and facilitating future adult intellectual functioning.

138. (C) Activities that encourage conformity and discourage questioning.
Effective youth development programs are designed to empower young people and foster their independence. This involves providing mentorship, building practical skills, and offering safe spaces for social exploration. Critically, these programs should encourage critical thinking and questioning rather than strict conformity. By allowing adolescents to explore diverse ideas and challenge existing norms, these programs support the development of a strong, independent identity and the ability to make informed decisions, which are essential for successful adulthood.

139. (A) 1, 2, and 3
Adolescence is a stage of significant transformation across multiple domains. Individuals experience the biological changes of puberty and achieve sexual maturity. Cognitively, they develop the ability for abstract and idealistic thinking. Socially, they strive for greater independence and the formation of a stable identity. While the importance of peer relationships actually increases during this period, these other fundamental changes together define the unique and complex nature of the adolescent experience and the move toward adult roles and responsibilities.

140. (D) Transitioning from being a child in a family to potentially starting one's own.
Early adulthood is a major life stage defined by the assumption of primary adult roles and responsibilities. One of the most significant transitions involves moving from a position of dependency within one's family of origin to becoming an independent individual who may choose to form a new family unit. This shift encompasses establishing a career, forming long-term intimate relationships, and taking on the responsibilities of parenthood, marking a definitive change in the individual's social identity and life direction.

141. (B) Experiencing major life events at a different age than one's peers and societal expectations.
Societies often have unwritten "social clocks" that dictate the expected timing of major life milestones such as finishing education, starting a career, or marrying. An individual who experiences these events significantly earlier or later than their peers may feel "off-time." This perceived mismatch can lead to feelings of stress, social isolation, or being misunderstood, as the person navigates life transitions without the shared context of their contemporaries, highlighting the powerful influence of social expectations on adult development.

142. (C) Assuming a mentorship role for younger colleagues.
In middle adulthood, individuals often reach a point of significant expertise and stability in their professional lives. A key responsibility that frequently emerges during this stage is the role of mentor. By guiding and supporting younger colleagues, middle-aged adults contribute to the growth of others and the continuity of their profession. this activity is a prime example of generativity, the psychosocial theme of the middle years, which focuses on making a lasting impact and supporting the next generation.

143. (A) 1, 2, and 5

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their physical world. In contrast, Vygotsky argued that cognitive development is inherently social and cultural. He highlighted the essential role of language as a tool for thought and the importance of social interaction with more knowledgeable others in advancing a child's understanding.

115. (A) Both A and R are true and R is the correct explanation of A.
A developmentally appropriate curriculum is essential in early childhood education to ensure that learning experiences match a child's current stage of growth. This approach requires teachers to consider three types of appropriateness: age, individual, and cultural. By tailoring activities to the child's developmental level, unique interests, and cultural background, educators can provide meaningful and engaging experiences that foster holistic development and a lifelong love of learning, ensuring each child's needs are met.

116. (C) Participating in a group-building activity with blocks.
Social development in preschoolers involves learning to interact with others, share, and cooperate. Group activities, such as building with blocks together, provide a natural context for children to practice these essential skills. Through these interactions, they learn to communicate their ideas, resolve conflicts, and work toward a common goal. This hands-on, collaborative play is far more effective for fostering social competence than solitary activities like watching videos or completing individual worksheets.

117. (D) Development in one domain can influence development in other domains.
Holistic development recognizes that a child is a whole person whose various areas of growth are deeply interconnected. Progress or challenges in one domain—such as physical, cognitive, social, or emotional—frequently impact and are impacted by development in others. For example, a child's ability to move physically can lead to new cognitive discoveries, while their emotional state can influence their social interactions. This integrated perspective is crucial for providing effective support and education in early childhood.

118. (C) Running, jumping, and climbing on a playground.
Gross motor skills involve the use of large muscle groups for movements that engage the whole body. Activities such as running, jumping, climbing, and throwing are ideal for developing these skills in young children. These movements help build strength, balance, and coordination, which are essential for overall physical health and confidence. Providing regular opportunities for active physical play is a vital part of supporting a child's motor development and ensuring they achieve important physical milestones.

119. (A) 1, 2, and 4
A comprehensive early childhood program aimed at holistic development should provide a variety of experiences across all domains. This includes opportunities for creative expression through the arts and music, as well as activities that challenge children to think critically and solve problems. Fostering social skills like cooperation and sharing is also a key component. Focusing exclusively on academic readiness is less effective, as it ignores the essential physical, social, and emotional needs of the developing child.

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120. (D) A stable, biologically based individual difference in behavior and emotional response.
Temperament refers to the innate, biologically rooted behavioral style and emotional reactivity that an individual demonstrates from birth. It is considered a relatively stable foundation for personality, influencing how a person responds to their environment and interacts with others. While temperament is influenced by genetics, it can be modulated by experiences and caregiving. Understanding a child's unique temperament is essential for providing sensitive and responsive care that supports their healthy psychological and social development.

121. (A) The unstated lessons, values, and norms transmitted through the school's social environment.
Beyond the formal academic curriculum, schools transmit a "hidden curriculum" through their social structure and everyday practices. These unstated lessons include cultural values, social norms, and expectations for behavior and attitudes. Through these experiences, children learn about authority, competition, gender roles, and social hierarchies. This subtle but powerful

Effective care for older adults must strike a careful balance between providing necessary assistance and respecting their independence. The goal is to offer support that addresses physical and psychological changes while promoting the individual's autonomy and dignity. This involves making modifications for safety, managing health conditions, and ensuring opportunities for social engagement. By focusing on the person's strengths and preferences, society can ensure that older adults lead fulfilling lives and remain valued members of their communities for as long as possible.

151. (A) P-3, Q-4, R-1, S-2
Research variables are categorized based on their role in the study. The independent variable is the factor being manipulated, while the dependent variable is the outcome being measured. Control variables are extraneous factors kept constant to prevent interference, and confounding variables are unmeasured factors that can distort results. Understanding these distinct roles is essential for designing valid experiments and accurately interpreting the relationships between different factors in a scientific study of human behavior and development.

152. (D) A continuous variable
In research, variables are classified by the type of data they represent. Hours of study is a continuous variable because it can take on any numerical value and be measured with high precision, such as in minutes or fractions of an hour. This quantitative nature allows researchers to analyze subtle differences in behavior. Unlike categorical variables that group data into discrete classes, continuous variables provide a spectrum of data that is essential for detailed statistical analysis and for understanding complex relationships.

153. (A) Extraneous or confounding variable
When conducting an experiment, it is crucial to identify any factor other than the independent variable that could influence the results. Pre-existing levels of motivation in a study on praise can act as an extraneous or confounding variable. If not accounted for, these initial differences might be mistaken for the effect of the intervention itself. Researchers must control for these variables through their design or statistical analysis to ensure that the observed changes are truly caused by the manipulation.

154. (C) Continuous variable
A continuous variable is one that can have an infinite number of values within a given range, representing measurements that can be made with increasing levels of precision. Characteristics such as height, weight, time, and distance are classic examples. These variables allow for sophisticated quantitative analysis and are essential for capturing the complexity of biological and psychological phenomena. Their fluid nature distinguishes them from categorical variables, which only allow for classification into discrete, non-overlapping groups or qualities.

155. (A) Both A and R are true and R is the correct explanation of A.
The selection of variables is a fundamental step in the research process because it defines what will be the focus of the investigation. By deciding what factors to manipulate, measure, and control, the researcher establishes the boundaries and specific nature of their inquiry. This process ensures that the study is systematically designed to address the research question. Careful variable selection is therefore essential for ensuring that the study produces meaningful and valid results that contribute to our understanding.

156. (D) Earlier development provides the foundation for later development.
The cumulative nature of development implies that each new skill or capacity is built upon those that came before. Mastery of early milestones, such as head control and grasping, provides the necessary physical and cognitive foundation for more complex behaviors like walking and writing. This principle highlights the importance of the early years, as the quality of early experiences and achievements significantly influences the trajectory of future growth and the individual's ability to navigate later developmental challenges.

157. (B) Neonatal period
The APGAR score is a rapid assessment performed on newborns immediately after birth, typically at one and five minutes. It evaluates five essential criteria: appearance, pulse, grimace, activity, and respiration. This scoring system provides a quick way for medical professionals

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communication and oral function, significantly improving the individual's quality of life.

129. (B) Intellectual Disability (formerly Mental Retardation)
Cognitive disabilities primarily affect mental processes such as learning, reasoning, and problem-solving. Intellectual disability is a key example, characterized by significant limitations in both intellectual functioning and adaptive behavior. These challenges emerge early in life and impact an individual's daily functioning across multiple environments. While conditions like dyslexia affect specific learning skills and physical or sensory impairments impact bodily functions, intellectual disabilities represent a broader impact on general cognitive development and the ability to navigate life's demands.

130. (C) Children of destitute families are at high risk for malnutrition and lack of education.
Children at risk face multiple, often overlapping, challenges that threaten their development. Destitution, characterized by extreme poverty, is a major risk factor as it leads to severe deprivation of food, healthcare, and schooling. This environment significantly increases the likelihood of malnutrition and illiteracy. Understanding that these risks are often systemic rather than individual choices is essential for creating effective social interventions that address the root causes of vulnerability and provide a path to a more secure future.

131. (B) P-3, Q-4, R-2, S-1
Children at risk are categorized based on the specific challenges they face. Child labor involves exploitative work that harms development, while street children live or work in public urban spaces. Child abuse refers to acts of commission or omission that result in harm, and orphans are those who have lost parental care through death or abandonment. Each category highlights a different form of vulnerability, requiring specialized protection and support systems to ensure the safety and well-being of these children.

132. (C) Systemic poverty and lack of opportunities.
While individual and family factors can play a role, the primary driver behind most instances of child labor, destitution, and child vulnerability is systemic poverty. Lack of economic stability, limited access to quality education, and few opportunities for social mobility force families into desperate situations. Addressing these broad societal issues is essential for long-term solutions. By improving economic conditions and ensuring equitable access to resources, society can reduce the pressures that lead to the exploitation and deprivation of children.

133. (D) 'Destitute' refers to extreme poverty, while 'street child' refers to location of life and work.
Although the terms are related, they describe different aspects of a child's situation. Destitution specifically refers to the severe economic deprivation and lack of basic necessities that a child experiences. In contrast, the term "street child" describes a child's living or working environment, regardless of their family status. While many street children are also destitute, the distinction is important for identifying the specific needs of each child and for developing targeted interventions that address both their location and their level of poverty.

134. (C) Neglect
Neglect is a form of child abuse characterized by the chronic failure of a caregiver to provide for a child's basic physical, emotional, or educational needs. This can include failing to provide adequate food, clothing, shelter, or medical care. Unlike active forms of abuse, neglect is often an act of omission, yet its consequences can be equally devastating, leading to long-term physical health problems, developmental delays, and psychological issues. Recognizing neglect is essential for protecting vulnerable children.

135. (A) Both A and R are true and R is the correct explanation of A.
Adolescence is a period of profound and interconnected changes across biological, cognitive, and social-emotional domains. Because these developments are linked, the challenges faced by young people during this time are often multi-faceted and complex. Effective programs must therefore take a holistic approach, addressing the diverse needs of youth through a variety of strategies. By providing comprehensive support that considers all aspects of development, such programs can more effectively promote healthy transitions and positive outcomes for adolescents.

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Prenatal development follows a specific chronological sequence divided into three main stages. The process begins with the germinal stage, which starts at conception and involves rapid cell division and implantation. This is followed by the embryonic stage, a critical period when major organs and body structures are formed. Finally, the fetal stage encompasses the remainder of the pregnancy, characterized by significant growth in size and the further maturation of all bodily systems and functions.

108. (D) Jean Piaget's Cognitive Development Theory
Jean Piaget's theory provides a detailed framework for understanding how children's thinking changes as they grow. He proposed that children are active participants in their own development, constructing their understanding of the world through a series of four distinct, universal stages. Each stage represents a qualitative shift in how the individual processes information and reasons logically. This perspective revolutionized the field by highlighting the active and structured nature of cognitive growth from infancy through adolescence.

109. (B) Fixation
In psychoanalytic theory, development occurs through a series of stages focused on different areas of bodily pleasure. If an individual experiences excessive gratification or severe frustration at any stage, they may become "stuck," a phenomenon known as fixation. This unresolved conflict can lead to specific personality traits and behavioral patterns in adulthood. For example, a fixation during the oral stage might manifest as a tendency toward overeating or smoking, reflecting the enduring influence of early childhood experiences.

110. (C) Kohlberg's theory outlines the stages of psychosexual development.
Different theories address specific aspects of human growth and change. Erikson focuses on psychosocial development across the lifespan, and Piaget details cognitive stages from birth. Vygotsky highlights the role of culture and social interaction in learning. However, Lawrence Kohlberg's theory is specifically concerned with moral development and reasoning, not psychosexual development. Psychosexual stages are the primary focus of Sigmund Freud's psychoanalytic theory, illustrating the distinct areas of development addressed by various psychological frameworks.

111. (A) P-4, Q-1, R-2, S-3
Kohlberg's theory describes how moral reasoning becomes increasingly complex and internalized over time. Initial stages focus on external consequences like avoiding punishment. As individuals mature, they begin to value social approval and the maintenance of societal order. Higher levels of reasoning involve understanding that laws are social contracts that can be changed, and the ultimate stage centers on following universal ethical principles. This progression reflects a move from self-centered views to a broader understanding of justice and ethics.

112. (A) Operant conditioning
Operant conditioning is a learning principle that states behavior is shaped and maintained by its consequences. Specifically, behaviors that are followed by positive outcomes, or reinforcement, are more likely to be repeated, while those followed by negative consequences, or punishment, are less likely to occur again. This perspective emphasizes the powerful role of the environment in determining behavior and is a fundamental concept in behavioral theories of human development and learning.

113. (B) Attitudes and ideologies of the culture.
In Bronfenbrenner's ecological model, the macrosystem represents the outermost layer of the environment. It does not consist of specific settings but rather the overarching cultural context in which an individual lives. This includes shared values, beliefs, customs, and laws, as well as prevailing political and economic systems. These broad cultural influences permeate all other levels of the environment, shaping the experiences and development of the individual in profound and often invisible ways.

114. (B) Vygotsky emphasized the role of language and culture, while Piaget focused more on universal stages.
While both Piaget and Vygotsky are key figures in cognitive development, they offer different perspectives on its primary drivers. Piaget emphasized that children progress through universal, biological stages by actively exploring

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Early adulthood is characterized by peak physical health and performance. Psychologically, individuals focus on the crisis of intimacy versus isolation, striving to form stable, long-term relationships. This stage is also a time of intense exploration as people establish their identities in both love and work. While career consolidation and the launching of children are tasks more typical of middle adulthood, these early years provide the essential foundation for the responsibilities and roles that follow in later life.

144. (A) A gradual decline in physical strength and stamina, and changes in appearance.
Middle adulthood typically involves noticeable physical changes as the body begins to show the signs of aging. This often includes a gradual decrease in overall strength, stamina, and sensory acuity, such as changes in vision and hearing. Physical appearance also shifts, with changes in hair color and skin elasticity. While these changes are gradual and vary greatly among individuals, they represent a common transition in the aging process and often prompt individuals to adjust their lifestyles and expectations.

145. (B) Focus more on the time they have left to live rather than the time since their birth.
A significant psychological shift often occurs during the middle and late years of adulthood regarding the perception of time. As individuals become more aware of the finite nature of life, they may shift their focus from the time passed since birth to the time remaining. This change in perspective can lead to a greater sense of urgency, a re-evaluation of priorities, and a desire to make the most of their remaining years, influencing their choices in work, relationships, and leisure.

146. (B) An increased prevalence of risk-taking and novelty-seeking behavior.
Aging is generally associated with several psychological changes, including a process of life review and, for many, an increase in emotional stability. However, risk-taking and novelty-seeking behaviors, which are more characteristic of adolescence and early adulthood, typically decrease as people grow older. While older adults may face challenges like depression related to health or loss, their psychological profile often shifts toward greater reflection and a preference for stability rather than the pursuit of risky or entirely new experiences.

147. (A) 2, 1, 3, 4
Erik Erikson's theory organizes human development into a series of eight psychosocial crises that occur in a specific chronological sequence across the lifespan. The process begins in infancy with the foundation of trust versus mistrust. During adolescence, the primary task is the formation of identity. Middle adulthood centers on the challenge of generativity versus stagnation, and the final years of life involve achieving ego integrity. This sequential framework highlights how individuals navigate social and emotional challenges at different stages.

148. (C) Successful aging involves a mutual withdrawal between the older person and society.
Disengagement theory, an early perspective in gerontology, suggests that successful aging is characterized by a natural and mutual withdrawal between the aging individual and society. According to this view, as people grow older, they voluntarily reduce their social roles and interactions, allowing for a smooth transition of responsibility to younger generations and a peaceful reflection on their own lives. While once prominent, this theory has been largely replaced by perspectives that emphasize the importance of continued activity and engagement.

149. (D) Older adults who are more active and involved have greater life satisfaction.
Activity theory proposes that successful aging occurs when individuals remain active and maintain social connections as they grow older. This perspective argues that replacing lost roles, such as through volunteering or new hobbies, is essential for life satisfaction and mental health. Rather than withdrawing, active engagement allows older adults to maintain a positive self-concept and overall well-being. This theory emphasizes the importance of community support and opportunities for continued participation for the aging population in all areas of life.

150. (C) To receive support that promotes autonomy and dignity while addressing health and safety.

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form of socialization significantly influences a child's self-concept and understanding of their place in society, playing a major role in their overall personality and social development.

122. (C) Anxiety, low self-esteem, and poor social skills.
The authoritarian parenting style is characterized by high demands and strict rules combined with low levels of warmth and responsiveness. Children raised in this environment often lack the opportunity to practice self-regulation or independent decision-making. Consequently, they may experience higher levels of anxiety, lower self-esteem, and more difficulty with social interactions compared to their peers. The lack of emotional support and open communication can hinder the development of a secure and confident sense of self.

123. (A) 1, 2, 3, and 4
Culture provides a powerful framework that shapes almost every aspect of personality development. It determines acceptable ways to express emotions and emphasizes either individual achievement or group harmony. Culture also defines gender roles and is transmitted through language and family practices. While genetics provide the biological foundation, culture determines how those traits are expressed and valued. Together, these cultural factors create a shared environment that guides individuals in developing their identity and social behavior within their community.

124. (D) Prevention occurs before a disability manifests, while rehabilitation occurs after.
The primary distinction between prevention and rehabilitation lies in the timing and goal of the intervention. Prevention strategies, such as immunizations and prenatal care, are proactive measures designed to stop a disability or disease from occurring in the first place. Rehabilitation, on the other hand, is a reactive process that begins after an impairment has already manifested. Its goal is to help the individual regain or maximize their functional capabilities and improve their quality of life following a loss.

125. (B) Providing vocational rehabilitation to a person who has had a spinal cord injury.
Tertiary prevention focuses on managing long-term health problems and disabilities to prevent further complications and improve functioning. Vocational rehabilitation is a prime example, as it aims to help individuals with existing impairments regain skills and find employment, thereby enhancing their independence and social participation. This differs from primary prevention, which avoids the condition altogether, and secondary prevention, which focuses on early detection and treatment to limit the initial impact of a disease or disability.

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126. (D) Statement I is false, but Statement II is true.
Inclusive education is a comprehensive approach that benefits all students, not just those with special needs. By learning together in the same environment, children without disabilities gain a better understanding of diversity and develop greater tolerance, empathy, and social cooperation. At the same time, students with special needs benefit from being part of the general social and academic community. This shared environment fosters a more inclusive society and prepares all individuals for a diverse and interconnected world.

127. (D) Recognizing their rights, dignity, and potential for growth.
At the core of all support for individuals with special needs is the fundamental recognition of their human rights and inherent dignity. Effective care goes beyond meeting physical needs or providing financial aid; it requires a focus on the person's potential rather than their limitations. By valuing their unique contributions and fostering their autonomy, society can promote true inclusion and empower individuals with disabilities to lead meaningful lives and participate fully as respected members of their communities.

128. (A) Aphasia (a language disorder) after a stroke.
Speech therapy is a specialized rehabilitation service essential for individuals facing communication or swallowing difficulties. For someone with aphasia following a stroke, this therapy focuses on helping them regain language skills and find new ways to express themselves and understand others. This intervention is critical for restoring social connection and functional independence. While other therapies address mobility or sensory loss, speech therapy specifically targets the vital areas of

to determine the infant's physical condition and whether they require immediate medical attention. As a critical tool used during the first few minutes of the neonatal period, it ensures that newborns receive necessary support during their initial transition.

158. (C) All forms of medication are safe to take without consulting a doctor.
Proper care during pregnancy is essential for the health of both the mother and the developing fetus. This involves maintaining a balanced diet, managing stress, and engaging in appropriate exercise. However, it is never safe to assume that all medications are harmless during pregnancy. Many substances can act as teratogens and cause significant harm. Therefore, it is critical for pregnant women to consult with a healthcare professional before taking any medication or supplement to ensure it is safe for the fetus.

159. (A) 1, 2, and 3
Optimal development in the neonatal period depends on meeting several fundamental needs. Establishing a secure attachment with caregivers provides the emotional foundation for future social relationships. Adequate nutrition is essential for rapid physical growth and brain development. Furthermore, a sensorily stimulating environment encourages the infant's neural pathways to develop. In contrast, formal academic instruction is not developmentally appropriate for this stage, as the focus is on basic physiological adjustment and the formation of primary social bonds.

160. (A) The third trimester
The "age of viability" refers to the point in prenatal development when a fetus has a chance of surviving outside the womb, usually with intensive medical support. This milestone is typically reached around the beginning of the third trimester, approximately 24 to 26 weeks of gestation. At this point, the lungs and other vital organ systems have matured enough to potentially function independently. However, the risk of complications remains high, and continued development within the womb is always preferred for optimal health.

161. (B) Assimilation
According to Piaget, children make sense of new information through the process of assimilation. This occurs when a child takes a new experience and fits it into an existing mental category or schema. A young child calling every four-legged animal "doggy" is using their current understanding of dogs to interpret new, similar-looking creatures. While this is an essential part of cognitive growth, it is eventually balanced by accommodation, where the child modifies their schemas to account for the differences they observe.

162. (B) Scaffolding
Scaffolding is a teaching technique where a more skilled person provides temporary support to help a learner accomplish a task that is just beyond their current ability. As the learner gains competence and confidence, the support is gradually withdrawn. This process occurs within the zone of proximal development and is a key concept in sociocultural theories of learning. By providing the appropriate level of challenge and guidance, scaffolding encourages independent problem-solving and the mastery of new skills.

163. (B) 2 and 5
The behaviorist perspective on human development focuses on the powerful role of the environment in shaping behavior. It emphasizes that individuals learn through direct experience with stimuli and the consequences that follow their actions. Central concepts include reinforcement, which increases the likelihood of a behavior, and punishment, which decreases it. In contrast to theories that focus on unconscious drives or innate stages, behaviorism highlights how observable environmental factors systematically determine the development and maintenance of specific behaviors over time.

164. (C) Encouraging verbal interaction, storytelling, and expanding vocabulary.
Language development in early childhood is best supported through rich and interactive verbal environments. Activities that encourage children to talk, listen to stories, and engage in conversations help them expand their vocabulary and understand the nuances of communication. This naturalistic approach is far more effective than formal grammar instruction or silent activities. By providing opportunities

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knowledge. Because this type of intelligence tends to decline in later adulthood, individuals may find it more difficult to perform tasks that require rapid, novel problem-solving, such as completing a complex and unfamiliar puzzle. This is a common and normal part of cognitive aging, and while it may slow down certain tasks, it is often balanced by the individual's accumulated knowledge and wisdom.

209. (B) Ego Integrity
Ego integrity is the positive outcome of the final psychosocial crisis in Erikson's theory. It is achieved when an older adult looks back on their entire life and feels a sense of satisfaction and meaningfulness, despite their mistakes. This sense of peace and fulfillment leads to the virtue of wisdom and an acceptance of the life cycle. Reaching this state allows individuals to face the end of life with dignity and a profound understanding of their own place in the human experience.

210. (B) A categorical independent variable
In a study examining the effect of a school counselor on dropout rates, the presence or absence of the counselor is the factor being investigated as the cause. Since this variable is organized into discrete categories—either "yes" or "no"—it is classified as a categorical independent variable. The dropout rate, measured as a percentage, is the dependent variable that the researcher will observe for any changes. This type of research design allows for clear comparisons between different groups or conditions in a study.

211. (A) Operational definition
An operational definition is a specific, measurable description of how a variable will be used in a research study. By stating that "intelligence" will be measured by a specific test score, the researcher provides a clear way for others to understand and replicate their work. This process moves from abstract concepts to concrete observations, which is essential for systematic scientific inquiry. Providing precise operational definitions ensures that data is collected consistently and that the study's findings can be accurately interpreted and verified.

212. (C) Rapid growth in size and the maturation of organ systems.
The fetal stage is the longest period of prenatal development, lasting from the ninth week until birth. This stage is primarily characterized by a dramatic increase in the size and weight of the developing organism. At the same time, the organ systems that were established during the embryonic period continue to mature and become functional. By the end of this stage, the fetus has developed the physical capabilities necessary for survival and independent functioning outside the womb, marking the final phase of development.

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213. (D) Accommodation
Accommodation is the cognitive process of modifying existing mental schemas or creating new ones to incorporate information that does not fit into what is already known. When a child realizes that their current category of "doggy" is too broad and needs to be adjusted to exclude other animals, they are using accommodation. This process, along with assimilation, allows children to develop an increasingly accurate and sophisticated understanding of the world around them as they encounter new and different experiences throughout their development.

214. (C) The relative influence of genetics and environment on development.
The "nature vs. nurture" debate is a central theme in developmental psychology, focusing on the extent to which our traits and behaviors are determined by our biological inheritance or by our life experiences and environment. While modern perspectives recognize that development is always a result of the complex interaction between both factors, the debate continues to provide a framework for investigating how genetics and the world around us together shape who we become from conception through the entire course of life.

215. (B) Model and gently guide the child in taking turns and sharing.
In early childhood settings, social challenges such as learning to share are common and should be handled with sensitivity. The most effective approach for a teacher is to model the desired behavior and provide gentle guidance to help the child understand how to take turns and cooperate with others. This supportive

172. (D) Maximize independence and quality of life.
The primary purpose of rehabilitation for individuals with special needs is to empower them to live as independently and fully as possible. Rather than focusing on a complete cure, which may not be possible, rehabilitation aims to help the person develop the skills and find the tools they need to navigate their environment and participate in community life. By maximizing functional abilities and enhancing quality of life, rehabilitation promotes the dignity and autonomy of individuals with disabilities.

173. (B) Damage to the child's sense of trust, self-worth, and ability to form healthy relationships.
While the physical consequences of child abuse are serious, the psychological and emotional damage is often more pervasive and long-lasting. Abuse disrupts the foundational sense of trust that children need to develop healthy attachments. It can lead to a deeply damaged self-image and significant difficulties in forming and maintaining healthy relationships later in life. These emotional scars require intensive support and therapy to heal, highlighting the profound impact that trauma can have on a person's lifelong psychological and social development.

174. (C) A child lacking the most basic means of survival due to extreme poverty.
A child of destitute families lives in a state of severe deprivation, lacking the most fundamental necessities required for human life and healthy growth. This includes consistent access to food, safe shelter, and basic healthcare. This extreme level of poverty is a comprehensive risk factor that impacts every domain of development, placing the child in immediate physical danger and severely limiting their future potential. Understanding the severity of destitution is essential for prioritizing the most urgent social interventions.

175. (A) Both A and R are true and R is the correct explanation of A.
Accurately estimating the population of street children is exceptionally difficult because they are often highly mobile and may intentionally stay hidden to avoid authorities. Furthermore, the definition of "street children" is complex, as it includes both those who live entirely on the streets and those who work there but maintain family ties. These varying definitions and the elusive nature of the population mean that official counts often underestimate the true number of children facing these precarious and vulnerable situations.

176. (A) A tendency towards idealistic thinking which can clash with the realities of the world.
During adolescence, cognitive development allows for more abstract and idealistic thinking. While this is an advancement, it can also present a challenge as young people's ideals for how the world should be often clash with the more complex and imperfect realities they observe. This can lead to frustration, disillusionment, or conflict with authority figures. Navigating the gap between their new cognitive abilities and the actual social world is a significant psychological task for individuals during the adolescent years.

177. (B) Social responsibility and a sense of connection to the community.
Community service projects are a powerful way to foster positive youth development by encouraging adolescents to look beyond their own needs and contribute to others. These experiences help build a sense of social responsibility and a stronger connection to their community. By taking on meaningful roles, young people develop new skills and a more positive self-image. This active engagement helps counter adolescent egocentrism and prepares individuals for their future roles as engaged and responsible adult citizens in their society.

178. (B) The loneliness and loss some parents feel when their children leave home.
The "empty nest syndrome" describes the psychological transition that some parents experience when their last child leaves home, typically for college or a new life. While many parents find this time to be one of increased freedom and renewed focus on their own interests, some may experience significant feelings of loneliness, loss, and a lack of purpose. This shift in family dynamics requires a meaningful adjustment in the parent's identity and their relationship with their now-adult children.

179. (A) 1, 2, and 4
Early adulthood is generally the period of peak physical performance and health. During these

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years, individuals also focus heavily on exploring and establishing their careers and forming long-term intimate relationships. These tasks are central to building an independent adult life. In contrast, conductng a "life review" and reflecting on mortality are psychological tasks that are more characteristic of late adulthood. Understanding these stage-specific priorities helps in recognizing the primary developmental focus during the different phases of adult life.

180. (C) Generativity
In middle adulthood, the primary psychosocial challenge is to contribute to society and support the development of others. A person who becomes a mentor to a younger colleague is a prime example of achieving generativity. By sharing their knowledge and experience, they are helping to guide the next generation and ensure the continuity of their work. This outward-focused activity provides a sense of productivity and fulfillment, which is essential for healthy psychological development during the middle years of life.

181. (D) Retirement from work
Retirement is a major life transition in late adulthood that requires significant psychological and social adjustment. For many, their career was a central part of their identity and provided structure and social connection. Transitioning away from work requires finding new ways to spend time, maintain a sense of purpose, and connect with others. While some find this transition to be a welcome change, others may experience a sense of loss, highlighting the importance of preparing for this significant shift.

182. (C) Managing finances and transportation.
Instrumental Activities of Daily Living are tasks that are not essential for basic survival but are necessary for independent living in a community. Examples include managing finances, handling transportation, shopping, and preparing meals. As individuals grow older, they may require assistance with these complex tasks before they need help with basic self-care activities like bathing or eating. Addressing these IADL needs is crucial for supporting the autonomy and continued community residence of the aging population as their abilities shift.

183. (A) 1, 2, and 3
Care for the aging population involves a comprehensive approach to address their physical, social, and environmental needs. This includes managing chronic diseases, providing opportunities for social engagement to prevent isolation, and modifying the living environment to ensure safety and accessibility. While other psychological and educational tasks are important in earlier stages, the focus in late adulthood is on maintaining quality of life and autonomy. By addressing these key areas, society can support the well-being and dignity of its older members.

184. (D) Wisdom
According to Erikson's theory, the successful resolution of the final psychosocial stage, ego integrity versus despair, results in the virtue of wisdom. Wisdom involves an informed and detached concern with life itself in the face of death. It is the ability to look back on one's entire life with a sense of satisfaction and acceptance, despite inevitable flaws and regrets. This positive outcome provides older adults with a sense of peace and a meaningful perspective on the human experience.

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185. (A) It defines the scope and focus of the research question.
In research, selecting the right variables is far from a formality; it is the step that determines the entire direction of the study. By choosing specific variables to manipulate and measure, the researcher defines exactly what they are investigating and the scope of their inquiry. This ensures that the study is systematically designed to produce relevant and valid information that directly addresses the research question, ultimately determining the study's contribution to our scientific knowledge of development.

186. (C) Dependent variable
The dependent variable is the factor in a research study that is observed and measured for any changes. Its value is expected to "depend" on the manipulation of the independent variable. By carefully measuring the dependent variable, researchers can determine whether their experimental intervention has had an effect. Identifying and accurately measuring this variable is essential for evaluating the outcomes of a study and for drawing valid conclusions

about the relationships between the different factors being investigated.

187. (A) 2, 4, 1, 3
A successful research study follows a logical sequence of steps. The process typically begins with identifying the problem, selecting variables, and formulating a hypothesis. This is followed by choosing an appropriate research design to test the hypothesis. Once the plan is in place, data is collected through various methods. Finally, the data is analyzed, and conclusions are drawn. This systematic approach ensures that the research is rigorous and produces reliable information that contributes to our understanding of the topic.

188. (D) Involves a dynamic interplay of biological, cognitive, and socioemotional factors.
The multidimensional nature of development means that it occurs across several different, yet interconnected, areas. Biological processes involve physical changes, while cognitive processes cover thinking and language. Socioemotional processes involve relationships and emotions. These dimensions are not separate; they constantly interact and influence one another throughout the lifespan. For example, a child's brain development affects their ability to think, which in turn influences how they interact with others, highlighting the complex and integrated nature of the human journey.

189. (B) Control their arms before they can control their fingers.
The proximodistal principle describes a pattern of growth and motor control that starts at the center of the body and moves outward toward the extremities. This explains why infants develop control over their torso and shoulders before they can manage the more precise movements of their hands and fingers. This inward-to-outward progression is a universal feature of physical development, demonstrating the orderly way in which the body and nervous system mature to allow for increasingly complex and refined motor skills.

190. (D) Statement I is false, but Statement II is true.
At birth, a newborn's vision is not yet fully developed and is considerably different from an adult's. Their vision is quite blurry, and they are best able to focus on objects that are about 8 to 12 inches away. This distance is approximately the space between an infant and their caregiver's face during feeding, which facilitates early social connection and attachment. As the visual system matures over the first few months, the child's sight becomes clearer and their range of focus expands significantly.

191. (B) P-3, Q-4, R-1, S-2
Different psychological theories focus on specific aspects of human growth. Kohlberg explored moral reasoning, while Bandura highlighted social-cognitive learning through observation. Bronfenbrenner's model emphasizes the role of nested ecological systems in development. Erikson's theory provides a comprehensive view of psychosocial development across the entire lifespan. Together, these diverse perspectives offer a more complete understanding of how biological, psychological, and social factors interact to shape the human experience and how we change from birth through late adulthood.

192. (A) Post-conventional
At the post-conventional level of moral reasoning, individuals judge actions based on self-chosen ethical principles and an understanding of universal justice and human rights. Someone at this stage may believe that certain principles, like the sanctity of life, are more important than specific laws. They understand that while laws are necessary for social order, they are also social contracts that should be changed if they violate fundamental ethical standards, representing a highly internalized and sophisticated form of moral development.

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193. (B) Social interaction with more skilled adults and peers.
Vygotsky's sociocultural theory emphasizes that cognitive development is not a solitary journey but is inherently a social process. Children learn and advance their understanding through interactions with more knowledgeable others, such as parents, teachers, and more advanced peers. These interactions provide the tools of thought, such as language, and create the social context for learning within the zone of proximal development. This perspective highlights the essential role that culture and social relationships play in shaping how a child thinks and understands.

194. (B) A teaching method where support is adjusted based on the child's level of performance.
In early childhood education, scaffolding is a dynamic teaching strategy where an adult or more skilled peer provides just enough assistance to help a child accomplish a task they cannot yet do alone. As the child's competence increases, the teacher gradually reduces the level of support, encouraging the child to take on more responsibility. This temporary framework allows children to move through their zone of proximal development, building confidence and fostering the independence needed for future learning and success.

195. (A) Both A and R are true and R is the correct explanation of A.
Play is fundamentally important in early childhood, often described as a child's primary way of learning about and interacting with the world. Through play, children naturally develop and practice essential skills in physical, cognitive, social, and emotional domains. It allows them to experiment with roles, solve problems, and build relationships in a safe and motivating way. This active and self-directed process is crucial for holistic development, providing the necessary foundation for all future academic and social learning.

196. (C) Rich verbal environments with conversation, reading, and singing.
Fostering language skills in early childhood is most effective when it occurs naturally through interaction and exposure. Providing a rich verbal environment where children are regularly engaged in conversation, listening to stories, and singing songs helps them naturally acquire vocabulary and understand the rules of communication. These interactive experiences are far more meaningful and effective than formal instruction. By making language a part of everyday play and routines, educators and parents can provide a strong foundation for future literacy and social success.

197. (D) Secure attachment
Secure attachment is characterized by a child's ability to use their primary caregiver as a safe base from which to explore the world. In a new situation, a securely attached child may show distress when the parent leaves but is easily comforted and happy to see them upon their return. This pattern of behavior reflects the child's underlying trust that their needs will be met, providing an emotional foundation for healthy relationships, self-confidence, and effective emotional regulation throughout their life.

198. (C) The impact of a major life event like a divorce on a child's development over time.
The chronosystem in Bronfenbrenner's model represents the dimension of time and how it influences development. It includes both internal changes within the individual and external events in their environment. For example, a significant event like a family divorce can have different impacts depending on when it occurs in a child's life and how its effects unfold over time. This system highlights that development is not static but is a dynamic process shaped by the timing and sequence of life experiences.

199. (B) 1, 3, and 4
Peer groups are a powerful agent of socialization, providing children and adolescents with a source of information about the world outside their family. They also serve as a key environment for learning gender roles and developing social skills. While peers can have a negative influence, they are often a source of positive support. However, being rejected by peers is a significant risk factor for developmental and emotional problems, highlighting the importance of peer acceptance for a healthy self-concept and social well-being.

200. (D) Provide individualized instruction and support to help students succeed academically and functionally.
The primary goal of special education is to ensure that students with disabilities have the opportunity to succeed by providing instruction that is specifically tailored to their unique needs. Rather than lowering standards or isolating students, it focuses on using specialized strategies and supports to help them access the same curriculum as their peers. By addressing both academic and functional skills, special education aims to maximize each student's potential and prepare them for as much independence and community participation as possible.

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201. (A) Giving the student extra time to complete a test.
In special education, an accommodation is a change in how a student accesses information or demonstrates what they have learned, without changing the academic standards or the content of the assignment. Providing extra time on a test is a classic example, as it allows a student with a learning disability to process information without the pressure of a strict time limit. This ensures that the assessment more accurately reflects the student's knowledge rather than their speed of processing.

202. (C) Educated with their non-disabled peers to the maximum extent appropriate.
The concept of the "least restrictive environment" is a legal principle ensuring that students with disabilities are educated alongside their non-disabled peers as much as possible. A student should only be moved to a separate setting if their needs cannot be met in the regular classroom, even with appropriate supports and services. This approach promotes social integration and ensures that all students have equal access to a high-quality education in a diverse and inclusive environment.

203. (A) 1, 2, and 3
Addressing the issue of child labor requires a comprehensive and multi-faceted strategy. This includes the strict enforcement of labor laws to protect children from exploitation, as well as addressing root causes such as poverty and lack of access to schooling. Furthermore, providing rescued children with rehabilitation and educational opportunities is essential for their recovery and future well-being. By combining legal, social, and educational interventions, society can more effectively eliminate child labor and ensure all children can enjoy their fundamental rights.

204. (D) Post-traumatic stress disorder (PTSD), anxiety, and depression.
Child trafficking is an extreme form of trauma that has profound and long-lasting psychological consequences. Children who have been trafficked often suffer from severe mental health issues, including post-traumatic stress disorder, chronic anxiety, and depression. These conditions result from the physical and emotional abuse and exploitation they have experienced. Providing specialized, trauma-informed care and long-term support is essential for helping survivors heal and rebuild their lives after such devastating and harmful experiences.

205. (B) Highly self-conscious and concerned with their appearance.
The "imaginary audience" is a cognitive phenomenon where adolescents believe that others are as preoccupied with their thoughts and behavior as they are themselves. This leads to a heightened sense of self-consciousness, as the adolescent feels they are constantly being watched and judged by an invisible audience. This belief can drive a strong concern with physical appearance and a desire to conform to perceived social norms, significantly influencing the emotional and social experiences of young people during this period.

206. (C) Identity Moratorium
According to identity status theory, a moratorium is a period during which an individual is actively exploring different roles, beliefs, and values but has not yet made a firm commitment to any one identity. This is considered a healthy and necessary phase of development, as it allows for the experimentation needed to eventually achieve a stable and coherent sense of self. Navigating this period of uncertainty is a key part of the process of identity formation during the adolescent and early adult years.

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207. (D) Middle Adulthood
Middle adulthood is often described as a period of "settling down" and consolidating the choices made earlier in life. Individuals in this stage typically reach the peak of their professional careers and assume greater responsibilities in their families and communities. The focus shifts from the exploration of early adulthood to maintenance, leadership, and contributing to the next generation. This stage represents a time of relative stability and significant productivity, where individuals focus on making a lasting impact and guiding those who follow.

208. (A) Solving a novel, complex puzzle quickly.
Fluid intelligence involves the ability to reason abstractly, solve new problems, and process information quickly, independent of prior

for meaningful expression and social interaction, educators can foster the foundational language skills that are essential for future literacy and overall cognitive and social success.

165. (D) Social skills, language use, and imaginative thinking.
Dramatic play, such as pretending to be in a doctor's office, is a highly beneficial activity in early childhood education. It allows children to practice social skills like cooperation and taking turns, while also encouraging them to use more complex language as they act out different roles. Furthermore, it fosters imaginative thinking and problem-solving as they navigate various scenarios. This type of play supports development across multiple domains, making it a powerful tool for holistic learning in the preschool years.

166. (C) Fine motor skills
Tying shoelaces is a complex task that requires the coordination of the small muscles in the fingers and hands. This ability is a clear indicator of the development of fine motor skills. As children's manual dexterity and hand-eye coordination improve, they are able to perform increasingly intricate tasks. These skills are essential for achieving independence in daily self-care and for future activities such as writing and drawing, representing an important physical milestone in the middle childhood years.

167. (B) Peer group
During adolescence, the relative influence of different socialization agents shifts significantly. While the family remains important for fundamental values, the peer group becomes the primary influence for matters related to current trends, leisure activities, and social behavior. Adolescents often look to their friends for approval and a sense of belonging as they explore their own identities separate from their parents. This powerful peer influence helps them navigate the complexities of social life and establish their own unique place among their contemporaries.

168. (D) Low control and low warmth.
The uninvolved parenting style, also known as neglectful parenting, is characterized by a lack of both control and emotional warmth. These parents are generally indifferent to their children's lives, providing little guidance, monitoring, or affection. They may meet basic physical needs but are emotionally detached and unresponsive to the child's psychological needs. This lack of parental involvement can have significant negative consequences, often leading to poor self-regulation, low self-esteem, and difficulties in social and academic performance for the child.

169. (A) The non-financial social assets (e.g., education, language, social norms) that promote social mobility.
Cultural capital refers to the knowledge, skills, education, and other social assets that a person possesses, which can give them an advantage in society. In a school setting, children who have a background that aligns with the institution's values and language may find it easier to succeed. This concept highlights how social and cultural backgrounds, rather than just economic resources, can influence an individual's development and opportunities, playing a significant role in their social mobility and personality formation.

170. (C) A hearing screening program for all newborns to detect deafness early.
Secondary prevention aims to detect a disease or disability in its early stages and provide immediate treatment to limit its long-term impact. Newborn hearing screenings are a prime example, as they allow for early identification of hearing loss. Early intervention, such as providing hearing aids or specialized therapy, can significantly improve a child's language development and overall social and academic outcomes. This proactive approach focuses on mitigating the consequences of a condition through early detection and prompt action.

171. (B) P-3, Q-1, R-4, S-2
Several key concepts guide the support of individuals with special needs. Inclusion emphasizes educating all students together, while the Individualized Education Program provides a personalized roadmap for success. Rehabilitation focuses on restoring lost functions, and prevention involves measures to stop disabilities before they occur. Each of these components plays a vital role in a comprehensive system of care that respects the rights and dignity of persons with disabilities while striving to maximize their independence and participation in society.

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strategy encourages the development of social competence and self-regulation in a positive and age-appropriate way. By using these situations as learning opportunities, educators can foster a supportive environment where children can practice essential social skills.

216. (D) Weather patterns
Socialization occurs through several primary agents that have a direct and consistent influence on an individual's life. These include the family, the school, peer groups, and the mass media. These agents transmit cultural values, norms, and behavioral expectations. In contrast, while weather patterns may affect certain activities, they are not social institutions that provide systematic lessons or guidance on how to function as a member of society. Understanding the role of specific social agents is essential for studying human development and social behavior.

217. (A) Ensuring access to quality prenatal care, nutrition, and immunizations.
Preventing disabilities and promoting health begins before birth and continues throughout childhood. This involve ensuring that mothers have access to high-quality prenatal care and proper nutrition, as well as providing children with essential immunizations and regular health checkups. By addressing these fundamental health needs early, society can significantly reduce the risk of many conditions and ensure that children have the best possible start in life. This proactive approach is a cornerstone of public health and is essential for promoting long-term well-being and development.

218. (C) Constant criticism, threats, and rejection that harm a child's self-worth.
Emotional abuse is a form of maltreatment that targets a child's psychological and emotional well-being. It involves chronic patterns of behavior such as constant criticism, threats, belittling, or rejection. While it may not leave physical scars, emotional abuse can have a devastating and long-lasting impact on a child's self-esteem, mental health, and ability to form healthy relationships. Because its effects are often hidden, identifying and addressing emotional abuse is essential for protecting the overall well-being and development of vulnerable children in all environments.

219. (A) Think about one's own thinking process.
Metacognition is a significant cognitive advancement that typically emerges and strengthens during adolescence. It involves the ability to reflect on and monitor one's own thinking and learning processes. This "thinking about thinking" allows adolescents to become more independent learners, as they can evaluate their understanding, choose effective strategies, and plan how to approach a task. This more sophisticated way of thinking is a key part of the intellectual transition to adulthood and is essential for complex problem-solving and self-directed learning in any field.

220. (D) Maintaining a high level of physical, social, and psychological well-being.
Successful aging is a multidimensional concept that goes beyond just physical health. It involves maintaining a high level of functioning across biological, psychological, and social domains. This includes staying physically active, remaining socially connected with others, and possessing a positive psychological outlook. Rather than the absence of all change, successful aging represents a high level of adaptation and a continued sense of purpose and well-being as individuals navigate the challenges and opportunities of the later years of their lives.

221. (B) The reaction time measured after caffeine consumption.
In a scientific experiment, the dependent variable is the factor that is being measured to see how it responds to changes. In a study on the effects of caffeine, the goal is to observe how reaction time is affected by the consumption of the substance. Therefore, the measured reaction time is the dependent variable, as its value depends on the level of the independent variable, which is the amount of caffeine given. This clear distinction is essential for determining cause-and-effect relationships in research.

222. (C) The infant's toes fanning out and curling when the sole of the foot is stroked.
The Babinski reflex is one of several primitive reflexes present in healthy infants. When the sole of an infant's foot is firmly stroked, their big toe moves upward while the other toes fan out. This involuntary response is a normal indicator of the health and development of the newborn's

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nervous system. As the child grows and the brain matures, this reflex typically disappears, usually by the time the child is two years old, marking an important developmental milestone in the process of maturation.

223. (D) Role Confusion
According to Erikson's psychosocial theory, the primary challenge during adolescence is the formation of a clear and stable identity. If an individual is unable to successfully navigate this stage and explore different roles and beliefs, they may experience role confusion. This state is characterized by uncertainty about one's self-concept, values, and future direction. Successfully resolving this crisis is essential for developing a sense of fidelity and for moving on to the subsequent challenges of establishing intimacy and productivity in adulthood.

224. (A) Gross motor skills
Gross motor skills are the abilities required to control the large muscles of the body for activities such as running, jumping, climbing, and hopping. These whole-body movements are essential for physical health, coordination, and independence. Providing children with regular opportunities for active physical play is a vital part of supporting their motor development. As these skills improve, children gain the physical confidence needed to explore their environment and participate in a wide range of social and physical activities throughout their childhood and beyond.

225. (B) Animistic thinking
Animistic thinking is a cognitive characteristic common in early childhood, particularly during the preoperational stage of development. It involves the belief that inanimate objects, such as dolls or toys, possess life-like qualities, feelings, and intentions. This way of perceiving the world reflects the child's developing imagination and their attempts to make sense of the world around them by attributing familiar human characteristics to non-living things. As cognitive development progresses, children eventually learn to distinguish between living and non-living entities more accurately.

226. (B) Rehabilitation restores lost skills, while habilitation teaches skills for the first time.
While both terms refer to processes aimed at improving functioning, they are used in different contexts. Rehabilitation is a reactive process intended to help an individual regain or recover skills and functions that were lost due to injury or illness. In contrast, habilitation is a proactive process of teaching and supporting the development of skills that a person has not yet acquired, often used for children with developmental disabilities. Understanding this distinction is essential for providing the appropriate type of support and intervention.

227. (A) Managing the competing demands of their children and their aging parents.
The "sandwich generation" describes a unique position in middle adulthood where individuals find themselves simultaneously caring for two different generations. They must balance the needs of their still-dependent children with the increasing care needs of their aging parents. This dual responsibility can lead to significant physical, emotional, and financial strain. Navigating these competing demands while also maintaining their own careers and well-being is a major developmental and life challenge that many middle-aged adults face in modern society.

228. (C) Menopause
Menopause is a natural biological process that occurs in middle-aged women, marking the permanent end of menstruation and the decline in the reproductive function of the ovaries. It is accompanied by significant hormonal changes and can involve various physical and psychological symptoms. While the experience is highly individual, it represents a major life transition and the end of the reproductive years. Understanding and supporting women through this normal phase of aging is an important part of adult health and well-being during the middle years.

229. (D) Ordinal variable
An ordinal variable is a type of categorical variable where the categories have a natural, meaningful order or ranking, but the distance between the categories is not necessarily equal or measurable. Level of education—such as high school, bachelor's, and master's—is a perfect example, as each level represents a higher degree of achievement than the previous one. This

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ordering allows researchers to compare groups based on their relative rank, providing more information than a simple nominal classification but less than a numerical measurement.

230. (C) Think logically about abstract propositions and test hypotheses systematically.
The formal operational stage, the final stage in Piaget's theory, is characterized by the emergence of abstract and logical thinking. During this phase, individuals move beyond thinking only about concrete objects and situations and can now reason about hypothetical possibilities. They develop the ability to think about abstract concepts and can systematically test multiple hypotheses to solve complex problems. This cognitive advancement is essential for higher-level scientific and philosophical reasoning and represents the culmination of cognitive development during the adolescent years and beyond.

231. (B) Suited to the age, individual abilities, and cultural context of the child.
Developmentally appropriate practice in early childhood education requires that activities and environments be tailored to the specific needs of the children. This involves considering the age-appropriateness of the tasks, the unique abilities and interests of each individual child, and the cultural context in which the child lives. By matching learning experiences to the child's current stage of development and background, educators can provide more engaging and effective support that fosters holistic growth and a positive attitude toward learning.

232. (D) Impulsive and have poor self-regulation due to lack of parental monitoring and guidance.
The uninvolved or neglectful parenting style is characterized by a significant lack of both warmth and control. Parents using this style provide little guidance or monitoring of their children's behavior. Consequently, children raised in this environment may struggle with self-discipline and are often more impulsive compared to their peers. Without the necessary support and limits provided by responsive caregivers, they may also experience difficulties with emotional regulation and social competence, highlighting the essential role of active and involved parenting for healthy development.

233. (A) To be provided with a safe, secure, and supportive environment.
For a child who has been rescued from the extreme trauma and exploitation of trafficking, the most immediate and critical need is safety and emotional support. They must be placed in a secure environment where they are protected from further harm and can begin to feel a sense of stability. This fundamental need must be met before any other interventions, such as education or vocational training, can be effectively introduced. Providing this initial security is a vital first step in the long process of recovery and healing.

234. (C) A more egalitarian relationship with renegotiated rules and greater autonomy for the adolescent.
As individuals move through adolescence, the relationship with their parents undergoes a significant shift. The goal of this period is to achieve greater independence while still maintaining a supportive connection. This involves a process where rules are renegotiated and the adolescent is given more autonomy in their decision-making. This transition from a more hierarchical relationship to a more egalitarian one is a normal and necessary part of the move toward adulthood, although it can often involve periods of conflict as both sides adjust.

235. (A) A highly variable and individual process influenced by genetics, lifestyle, and environment.
Aging is a complex and highly individual process that affects people in vastly different ways. While certain biological changes are a common part of growing older, the rate and extent of these changes are determined by a unique combination of factors. These include a person's genetic inheritance, their lifelong lifestyle choices, and the environments in which they have lived. Because of this high degree of heterogeneity, two individuals of the same chronological age can have very different functional abilities, highlighting the diverse nature of the human journey.

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236. (D) Independent variable
In research, the independent variable is the factor that is hypothesized to be the cause of a change or difference. In a study on whether gender affects choice of college major, gender is

The careful selection and control of variables are essential for establishing cause-and-effect relationships in research. By manipulating the independent variable and controlling for extraneous factors, researchers can more accurately assess the impact on the dependent variable. This rigorous approach ensures the internal validity of the study, making the findings more reliable and meaningful for understanding the phenomena under investigation.

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life. As individuals reach middle age, they may become more aware of the time they have left rather than the time passed since birth. This shift in perspective can lead to questioning past choices and an urgent desire for change. While not universal, this process represents a significant psychological transition as individuals re-evaluate their priorities and goals in the light of their own mortality.

244. (C) Conducting a 'life review' to come to terms with one's life.
In late adulthood, individuals often engage in a process of life review, which involves looking back on their entire life and reflecting on their experiences, achievements, and mistakes. The goal of this psychological task is to reach a sense of ego integrity, where they feel that their life has been meaningful and satisfied. Successfully navigating this process leads to the virtue of wisdom and an acceptance of the end of the life cycle, which is essential for emotional well-being and a sense of peace in the final years.

245. (D) Random assignment
Random assignment is a fundamental research procedure used in experiments to ensure that all participants have an equal chance of being placed in either the experimental or the control group. This process helps to ensure that any initial differences between the individuals are evenly distributed across the groups. By minimizing the influence of pre-existing differences, random assignment allows researchers to be more confident that any observed differences in the outcome were actually caused by the experimental manipulation rather than by the characteristics of the participants themselves.

246. (C) Germinal, Embryonic, Fetal
Prenatal development follows a specific and orderly sequence of three stages from conception to birth. The process begins with the germinal stage, which involves the initial cell division and implantation. This is followed by the embryonic stage, a critical period during which all major organ systems and body structures are formed. Finally, the fetal stage encompasses the remainder of the pregnancy, characterized by significant growth and the further maturation of all bodily systems. Understanding this sequence is essential for monitoring the health and development of the fetus.

247. (D) Individuals must resolve a series of psychosocial crises at different stages of life.
Erik Erikson's theory provides a comprehensive framework for understanding development across the entire lifespan. He proposed that individuals progress through a series of eight distinct stages, each of which is characterized by a specific psychosocial crisis. The successful resolution of each crisis leads to the development of a particular virtue and provides the foundation for the next stage. This theory highlights the essential role that social interactions and cultural expectations play in shaping our personality and sense of self from infancy through late adulthood.

248. (A) The quality of the parent-child relationship and the parenting style.
While many factors influence a child's development, the family remains the primary and most enduring influence on personality. The quality of the relationship between the parent and child, as well as the specific parenting style used, are the most significant factors in shaping the child's self-concept, emotional regulation, and social behavior. A supportive and responsive environment provides the security needed for healthy growth. Understanding these dynamics is essential for promoting positive outcomes and for providing effective support to families during the critical years of childhood.

249. (C) Help the person adapt and achieve the highest possible level of functioning.
Rehabilitation for a person with a newly acquired disability is a comprehensive and person-centered process. Its primary goal is not to "cure" the condition but to help the individual adapt to their new situation and achieve the greatest possible level of functional independence and quality of life. This involves providing physical, cognitive, and social interventions that address the person's unique needs and strengths. By focusing on what the individual can do and providing the necessary tools and support, rehabilitation promotes autonomy and inclusion in all areas of life.

250. (A) The personal fable
The personal fable is a cognitive phenomenon in adolescence where an individual believes their

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the independent variable because the researcher is looking at how this characteristic influences the outcome. By comparing the choices made by different groups, the researcher can determine if there is a relationship between the two variables. This clear identification of roles is essential for designing a valid study and for accurately interpreting the findings.

237. (B) Cephalocaudal principle
The cephalocaudal principle describes a directional pattern of physical growth and development that proceeds from the head downward toward the tail or feet. This pattern is evident during the prenatal period and throughout infancy, as the brain and head develop more rapidly and achieve maturity before the lower parts of the body. This principle also applies to motor development, as infants typically gain control over their head and neck movements before they are able to sit, crawl, or eventually walk.

238. (C) Mesosystem
In Bronfenbrenner's ecological model, the mesosystem consists of the connections and interactions between different settings in an individual's microsystem. For example, the relationship and communication between a child's parents and their teacher is a key part of the mesosystem. These interconnections are important because the quality of the interaction between these settings can significantly influence the child's development. A supportive and communicative mesosystem can provide a more consistent and beneficial environment for the child, highlighting the importance of looking beyond individual settings.

239. (D) Recognizing the interconnectedness of physical, cognitive, social, and emotional development.
Holistic development is an approach in early childhood education that recognizes that a child is a complex whole whose various areas of growth are deeply linked. Progress or challenges in one domain, such as physical health, will often have a direct impact on development in other areas, such as cognitive or social skills. By understanding these interconnections, educators and caregivers can provide more effective and integrated support that addresses the needs of the whole child, ensuring they have a balanced and comprehensive foundation for their future learning and life.

240. (A) Enhance their capabilities and promote their inclusion in society.
The ultimate objective of providing care and support to individuals with special needs is to empower them and foster their full participation in society. Rather than focusing on their limitations, effective support aims to enhance their existing capabilities and provide the tools and environments needed for them to thrive. By promoting inclusion and respecting their rights and dignity, society can ensure that individuals with disabilities have the opportunity to lead meaningful lives and contribute their unique talents as valued members of their communities.

241. (B) Providing consistent, loving discipline
Child abuse is a broad category of maltreatment that involves physical, emotional, or sexual harm, as well as the chronic neglect of a child's basic needs. These actions or omissions cause significant damage to the child's health and development. In contrast, providing consistent and loving discipline is an essential part of healthy parenting. Positive discipline helps children learn self-regulation and social responsibility in a supportive way, which is fundamental for their healthy development and is distinct from any form of harmful or abusive behavior.

242. (B) Commitment following a period of exploration.
Identity achievement is the state in which an individual has successfully navigated a period of exploration, often called a crisis, and has made firm commitments to specific roles, values, and goals. This process results in a stable and coherent sense of self. Achieving this state is a primary task of adolescence and early adulthood and provides the psychological foundation needed for the subsequent challenges of life. Individuals who reach identity achievement demonstrate a greater sense of purpose and are better prepared for independent adult roles and responsibilities.

243. (A) One's own mortality and the passage of time.
The "mid-life crisis," when it occurs, is often a period of intense self-reflection triggered by a heightened awareness of the finite nature of

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from various theoretical perspectives. Since no single theory fully explains the complexity of growth and behavior, practitioners must consider psychodynamic, behavioral, cognitive, and sociocultural insights. Combining these different lenses allows for a more holistic view of the diverse factors, including both internal and external influences, that shape an individual's entire life trajectory.

259. (C) A sociocultural perspective
The sociocultural perspective emphasizes that human development is deeply embedded within a social context and cultural framework. It highlights how social interactions and cultural tools, such as language and traditional customs, are transmitted across generations. This theory focuses on how children learn through shared activities and how their social environment fundamentally shapes their cognitive development and overall socialization process within their community.

260. (A) Psychodynamic theories stress the role of the unconscious, while behavioral theories stress observable behaviors.
Psychodynamic and behavioral theories differ significantly in their focus on internal versus external drivers of behavior. Psychodynamic perspectives emphasize the role of unconscious motives and the lasting impact of early life experiences on personality. Conversely, behavioral theories disregard the unconscious and focus exclusively on observable actions and the way environmental stimuli and reinforcement patterns shape development through learning and interaction.

261. (D) To encourage the integrated and all-round development of a child.
The principal objective of Early Childhood Care and Education is to promote holistic development in young children. This approach seeks to nurture all aspects of a child's growth, including physical, cognitive, language, and socio-emotional domains, in an integrated way. Rather than focusing on a single area, it aims for all-round well-being, ensuring a solid foundation for future learning and development.

262. (B) Language development
Language development involves the acquisition of skills related to communication, including vocabulary, grammar, and listening comprehension. Storytelling is a primary activity used to enhance these skills, as it exposes children to rich vocabulary and narrative structures. Through listening and interacting during stories, children strengthen their ability to use and understand language, which is essential for their overall communicative competence and growth.

263. (C) suited to the specific age, capabilities, and cultural setting of the children.
Developmentally appropriate practices in early education require that activities be tailored to meet the specific needs of children. This involves aligning educational experiences with the age-related characteristics, individual capabilities, and the unique cultural context of the learners. By ensuring that activities are neither too simple nor excessively challenging, educators can effectively support the natural progression of learning and holistic development.

264. (D) structured and unstructured play.
Play serves as the primary and most effective medium for learning and development during early childhood. Whether structured or unstructured, play provides children with vital opportunities for exploration, discovery, and social interaction. High-quality early childhood programs utilize play to facilitate learning across all developmental domains, allowing children to build foundational skills in a manner that is naturally engaging and meaningful.

265. (A) The socio-emotional domain
The socio-emotional domain focuses on a child's ability to identify and manage their feelings while establishing meaningful social connections. Fostering these skills involves creating environments where children feel safe to express themselves and learn how to interact positively with others. Developing empathy and healthy relationships is a critical component of this domain, laying the groundwork for future social competence and well-being.

266. (B) The family
The family is recognized as the primary agent of socialization because it provides the earliest and most consistent environment for a child's

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own experiences and emotions are unique and that no one else can truly understand them. This can lead to a sense of isolation or, conversely, to a belief in their own invulnerability. An adolescent feeling that their love is uniquely intense is a classic example of this self-focused way of thinking. This belief in personal uniqueness is a key part of the egocentrism and identity exploration that characterizes the adolescent years as they move toward adulthood.

251. (B) Growth refers to increases in physical size, while development encompasses qualitative changes toward maturity.
The core distinction between growth and development lies in the nature of change. Growth is fundamentally a quantitative process involving measurable increases in physical dimensions such as height and weight. Development, however, is qualitative, representing a progressive series of orderly and coherent changes that lead towards maturity and improved functional capacity across various life domains throughout the human lifespan.

252. (A) The cephalocaudal principle
The cephalocaudal principle describes a directional trend in human development where physical growth and motor control proceed from the head downward to the lower body. This pattern explains why infants first master neck stability and upper body coordination before developing the strength and motor skills in their legs necessary for standing and walking later in their physical development process.

253. (C) It is an ongoing process with periods of more rapid change than others.
Human development is a continuous process, yet it does not occur at a uniform speed across all life stages. The rate of change fluctuates significantly, with periods of rapid progression occurring during the prenatal and neonatal phases. Understanding these varying rates is essential for recognizing normal developmental trajectories and identifying potential delays or issues during specific growth periods in children.

254. (D) Focusing on physiological adaptation and the establishment of early social bonds.
Care during the neonatal period focuses on the infant's immediate survival and adjustment to life outside the womb. This involves establishing critical physiological functions like respiration and temperature regulation. Additionally, this stage is vital for fostering early attachment between the infant and caregivers, which provides the necessary foundation for the child's future psychosocial health and overall emotional development throughout life.

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255. (C) A child learns to control their torso and arms before learning to grasp with their fingers.
The proximodistal principle dictates that physical and motor development proceeds from the center of the body outward to the extremities. This means that children gain control over their trunk and large muscle groups, such as the arms, before acquiring finer motor skills like finger manipulation. Mastering large-scale movements before precise actions is a hallmark of this essential developmental trend in humans.

256. (B) Behavioral theories
Behavioral theories suggest that development is primarily shaped by environmental factors rather than internal drives or cognitive shifts. These perspectives emphasize how individuals learn through interactions with their surroundings, specifically focusing on observable actions. Principles like conditioning and reinforcement explain how stimuli and consequences determine which behaviors are repeated and how new patterns of behavior are acquired over time during development.

257. (D) The evolution of thought processes and mental operations.
Cognitive theories focus on the internal processes related to thinking, knowing, and understanding the world. These frameworks examine how mental operations, such as problem-solving and information processing, evolve as individuals mature. By analyzing how thought structures change over time, cognitive perspectives provide insights into how people perceive their environment and how these shifts in logic influence overall human behavior and interaction.

258. (A) considering insights from various theoretical viewpoints.
A comprehensive understanding of human development requires integrating concepts

the goal is to ensure that everyone can lead a fulfilling life.

275. (C) physical, developmental, behavioral, or sensory.
The term special needs encompasses a broad range of impairments that may require specialized support and care. This includes physical disabilities, developmental delays, behavioral challenges, and sensory impairments like vision or hearing loss. Recognizing the diversity of these needs is essential for developing effective interventions and educational strategies that cater to the specific functional requirements of each individual across the lifespan.

276. (A) It deprives children of their childhood and is often harmful.
Child labour has severe negative impacts on a child's overall well-being and future prospects. It deprives children of their childhood experiences and potential, often forcing them into hazardous or exploitative situations. Such work is detrimental to both physical and mental development, as it prevents children from accessing education and creates environments that are harmful to their health and dignity.

277. (D) violence, exploitation, and lack of basic services.
Street children represent an extremely vulnerable population due to their lack of stable housing and adult protection. They face significant risks, including exposure to violence, exploitation, and extreme poverty. Without consistent access to basic services like education and healthcare, these children are often marginalized and forced into dangerous situations to survive, which severely hinders their healthy development and social well-being.

278. (B) The lack of a stable and nurturing home life.
Orphans and children from destitute families often share the common challenge of lacking a stable and nurturing home environment. The absence of consistent family support can lead to various developmental risks, including nutritional deficiencies and emotional neglect. Without the security of a supportive family structure, these children are more likely to experience social marginalization and difficulties in achieving healthy personal development.

279. (C) Severe psychological trauma and developmental delays.
Traumatic experiences such as child abuse and trafficking have profound and lasting consequences for a child's development. These grave violations of rights can lead to severe psychological damage, including anxiety and depression, and may cause significant developmental delays. The impact often extends into adulthood, resulting in poor social adjustment and long-term emotional struggles that require comprehensive rehabilitation and professional support.

280. (D) A comprehensive approach combining legal, social, and community efforts.
Effectively addressing the complex issues faced by children at risk necessitates a multi-pronged and comprehensive strategy. This approach must combine legal protections and law enforcement with robust social support systems and community-based interventions. By integrating rehabilitation services and social work, society can provide a safety net that protects vulnerable children and helps them overcome the adverse circumstances threatening their development.

281. (A) The development of abstract and hypothetical thinking.
During adolescence, individuals undergo significant cognitive shifts, most notably the development of abstract and hypothetical thinking. This new capacity allows them to move beyond concrete, present-moment realities to consider complex possibilities, systematic ideas, and future consequences. Adolescents become capable of advanced problem-solving and philosophical reasoning, which fundamentally changes how they perceive themselves and their role in the world around them.

282. (B) The quest for identity and autonomy.
Adolescence is marked by a profound quest for identity and autonomy as individuals transition from childhood dependence. This psychosocial challenge involves exploring personal values and seeking a sense of self that is separate from the family unit. The simultaneous need for peer acceptance can create internal and external conflicts, often leading to increased emotional volatility as they navigate complex social landscapes.

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283. (B) Building life skills and providing positive engagement opportunities.
Programs aimed at fostering optimal youth development focus on building essential life skills and providing positive engagement opportunities. These initiatives help adolescents develop competencies in decision-making, communication, and stress management. By offering roles in leadership or community service, such programs encourage youth to contribute meaningfully to society, helping them navigate the challenges of adolescence while building a foundation for adulthood.

284. (A) The onset of puberty and a growth spurt.
The primary physical hallmark of adolescence is the onset of puberty, which is accompanied by a significant growth spurt. This period involves rapid changes in height, weight, and body composition, eventually leading to sexual maturity. These biological transformations are driven by hormonal shifts and represent the transition from the physical state of childhood to the reproductive maturity of an adult.

285. (C) To help youth manage developmental challenges and foster positive growth.
Youth development programs are designed to support adolescents as they navigate the complex physical, cognitive, and social changes of this life stage. The main purpose is to help youth manage developmental challenges and foster positive growth by providing guidance and resources. These interventions aim to equip young people with the skills and resilience necessary to become healthy, competent, and responsible adults.

286. (D) The establishment of careers and intimate relationships.
Early adulthood is a significant phase of life focused on establishing independence and building foundational structures for the future. Key characteristics of this stage include the pursuit of higher education, the start of a professional career, and the formation of intimate, long-term relationships. Individuals in this period typically experience peak physical vitality and focus on making major life choices regarding work.

287. (C) contribute to and guide the next generation.
Generativity is a defining developmental task of middle adulthood, characterized by a desire to contribute to the well-being of others. It involves a shift in focus from personal achievement toward guiding and supporting the next generation. This is often expressed through parenting, mentoring younger colleagues, or community involvement, reflecting an individual's need to create a lasting, positive impact on society.

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288. (B) simultaneously caring for their children and their aging parents.
The term sandwich generation describes middle-aged adults who find themselves simultaneously caring for their own children and their aging parents. This dual responsibility can create significant emotional and financial pressure. It reflects the complex role transitions of middle adulthood, where individuals must balance the needs of multiple generations while often managing their own peak career demands and personal health changes.

289. (D) building a foundational life structure around work and love.
A primary developmental task of early adulthood is the construction of a foundational life structure centered on the pillars of work and love. During this period, individuals make critical decisions about their career paths and seek to establish deep, intimate connections with others. These choices provide the stability and direction needed to transition successfully into the roles and responsibilities of adulthood.

290. (A) A shift from building a life to re-evaluating priorities.
As individuals transition from early to middle adulthood, they often experience a shift from building a life structure to re-evaluating their priorities. This period frequently involves a deeper awareness of mortality and a reassessment of life goals. While early adulthood focuses on establishing independence and careers, middle adulthood brings a focus on meaning, legacy, and managing changing roles.

291. (C) A decline in sensory acuity, such as hearing and vision.
Aging is a universal process that leads to a gradual decline in the efficiency of various bodily systems. One of the most common physical changes is a reduction in sensory acuity, which often manifests as a loss of hearing or decreased

vision. These changes are part of the natural aging process and can impact how older adults interact with their environment.

292. (A) managing chronic health conditions and ensuring safety.
The care needs of older adults are primarily focused on managing chronic health conditions and ensuring a safe living environment. Because aging increases vulnerability to illnesses like heart disease and arthritis, consistent medical management is essential. Additionally, preventing falls and promoting a healthy lifestyle through proper nutrition and gentle exercise are critical components of maintaining health and well-being in later life.

293. (D) Processing speed may decrease, but experiential knowledge can remain strong.
Cognitive function during aging is characterized by a mix of decline and stability. While processing speed and some memory functions may slow down, crystallized intelligence—the knowledge and experience accumulated over a lifetime—often remains stable or even improves. This experiential wisdom allows older adults to remain cognitively effective in many areas despite changes in the biological speed of mental processing.

294. (B) Feelings of loneliness and depression, often linked to life events.
Older adults face specific psychological risks, including increased vulnerability to loneliness, anxiety, and depression. These challenges are often triggered by significant life changes such as retirement, the loss of friends or a spouse, and declining physical health. Addressing these risks involves fostering social engagement and providing emotional support to help individuals maintain a sense of purpose and mental well-being.

295. (C) Psychological and well-being support
Fostering a sense of purpose and autonomy is a fundamental aspect of psychological care for older adults. By encouraging independence and providing opportunities for meaningful engagement, caregivers can help enhance the overall well-being and quality of life for the elderly. This type of support focuses on the emotional and mental health needs of individuals as they navigate aging.

296. (D) It is the variable that the researcher manipulates to observe an effect.
The independent variable is the core element that a researcher manipulates or changes within a study to observe its effects. By systematically varying this factor, investigators can determine if it causes a change in the outcome they are measuring. It serves as the hypothesized cause in an experiment, allowing researchers to explore potential relationships between different variables and their specific consequences.

297. (A) dependent variable.
In a research study, the dependent variable is the outcome or effect that is measured to see how it responds to changes in another factor. In the context of examining how sleep impacts memory, memory recall is the dependent variable because it is the specific result being assessed. Its value is expected to depend on the amount of sleep participants received.

298. (B) Because they can provide an alternative explanation for the study's results.
Extraneous variables are factors outside the primary focus of a study that could potentially influence the results. It is crucial to consider these variables because they can offer alternative explanations for the observed changes in the dependent variable. If not controlled, they can interfere with the researcher's ability to draw accurate conclusions about the actual relationship between the variables being studied.

299. (B) To specify the variable in a clear, concrete, and measurable manner.
To operationally define a variable means to describe it in clear, concrete, and measurable terms. This process specifies exactly how a variable will be observed or measured within a particular study, ensuring that the research is replicable and objective. By providing a precise definition, researchers can ensure that their data collection is consistent and that their findings are clearly understood.

300. (A) To help establish cause-and-effect relationships and ensure validity.

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development. Within the family unit, individuals first learn fundamental values, beliefs, and behavioral norms. These early interactions and the quality of relationships within the home establish the initial framework for a person's social identity and lifelong behavior patterns.

267. (B) Adolescence
While social influences are present throughout life, the influence of peer groups becomes particularly significant during adolescence. During this transitional phase, individuals strive for identity and autonomy, often looking to their peers for acceptance and social cues. Peer groups provide a critical context for developing social skills and learning about conformity, frequently surpassing the influence of the family unit.

268. (A) It introduces individuals to structured rules and diverse viewpoints.
Beyond formal academic instruction, the school environment serves as a crucial social context for personality development. It introduces individuals to a structured system of rules, expectations, and diverse perspectives that differ from their home life. These experiences shape how individuals interact with authority, understand social hierarchies, and develop their own aspirations and behavior within a broader, more complex social community.

269. (C) providing a framework of overarching norms and values.
Culture exerts a powerful influence on personality by providing the overarching framework of norms, values, and ideologies that guide behavior. It establishes standards for traits such as achievement, individualism, and interdependence, which shape an individual's goals and self-perception. These cultural influences are transmitted through social institutions and interactions, fundamentally molding how people think, feel, and act within their society.

270. (D) It is a dynamic process influenced by multiple social contexts.
Personality development is a dynamic, lifelong process that is continuously shaped by the interplay of various social systems. It is not a fixed or static trait but evolves through interactions with family, peers, school, and the broader cultural context. These diverse influences work together to mold an individual's character, behavior, and identity across the different stages of the human lifespan.

271. (C) To offer specially designed instruction to meet the unique needs of a child with a disability.
Special education is designed to meet the unique learning requirements of children with disabilities through specialized instruction. This approach involves adapting teaching methods, materials, and the learning environment to ensure that every student can access education effectively. The goal is to provide personalized support that addresses specific physical, cognitive, or sensory challenges, thereby helping each child reach their full developmental potential.

272. (B) promoting prenatal screening and public health programs.
Addressing the prevention of disabilities involves a range of proactive healthcare and public health measures. These include prenatal screening, genetic counseling, and ensuring proper maternal nutrition and healthcare during pregnancy. Additionally, public health initiatives such as immunization programs and childhood nutritional support play a critical role in reducing the risk of conditions that can lead to long-term physical impairments.

273. (D) a goal-oriented process to optimize functional levels and social integration.
Rehabilitation is a goal-oriented process designed to help individuals with disabilities achieve and maintain their optimal level of functioning. It addresses various domains, including physical, sensory, intellectual, and social health, through services like medical care and therapy. The ultimate aim is to promote independence and integration into the community, thereby significantly improving the overall quality of life for the individual.

274. (A) inclusion, independence, and quality of life.
Support for persons with special needs is centered on the principles of inclusion, independence, and maximizing quality of life. This holistic approach focuses on providing the necessary resources and accommodations to help individuals participate fully in society. By fostering an environment that values diversity and provides targeted support,

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CHAPTER 08
Family Studies

1. Which of the following best defines a nuclear family?
(A) A family unit including grandparents, aunts, uncles, and cousins.
(B) A family unit comprising parents and their dependent children.
(C) A family unit formed by the remarriage of a divorced person.
(D) A family unit where descent is traced through the female line.

2. Which statement is INCORRECT regarding the dynamics of family relationships?
(A) Family dynamics are static and do not change over the family life cycle.
(B) Communication patterns significantly influence family cohesion.
(C) Roles and responsibilities within a family are often culturally defined.
(D) Power structures can impact decision-making within the family.

3. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Parent education programs are crucial for fostering healthy child development.
Reason (R) : These programs equip parents with knowledge and skills for effective, positive parenting, which reduces the likelihood of child maltreatment.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

4. A family facing sudden unemployment and subsequent financial distress is experiencing what type of crisis?
(A) A developmental crisis.
(B) A structural crisis.
(C) An internal crisis.
(D) An external crisis.

5. In the context of research methods, what is the primary purpose of 'coding' data?
(A) To collect raw observational information from a sample population.
(B) To present raw data in graphical formats for easier interpretation.
(C) To assign symbols to responses to facilitate statistical analysis.
(D) To draw general conclusions about a population from sample data.

6. Consider the following statements about family welfare programmes in India:
1. They aim primarily at population control.
2. They adopt a multi-sectoral approach involving health, education, and nutrition.
3. They are exclusively implemented by central government agencies.
4. Their goal is to improve the overall quality of life for families.

Which of the above statement(s) is/are correct?
(A) 1 and 3 only
(B) 2 and 4 only
(C) 1, 2 and 3 only
(D) 2, 3 and 4 only

7. What is the most significant challenge faced by single-parent families?
(A) Lack of community support.
(B) Inability to provide emotional support to children.
(C) Legal complexities in child custody.
(D) Role overload and financial strain.

8. Which of the following is NOT a fundamental right of children as per the UN Convention on the Rights of the Child (CRC)?
(A) Right to unlimited screen time and entertainment.
(B) Right to life, survival, and development.
(C) Right to protection from abuse and neglect.

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2. Mental and emotional health
3. Social well-being
4. Financial wealth
5. Spiritual well-being

Which of the above statement(s) is/are correct for a holistic view of health across the life span?
(A) 1, 2, and 4 only
(B) 2, 3, 4, and 5 only
(C) 1, 2, 3, and 5 only
(D) 1, 3, and 5 only

29. The concept of 'gender roles' refers to:
(A) Biological differences between males and females.
(B) The equal distribution of tasks between partners in a marriage.
(C) Socially and culturally constructed expectations of behavior.
(D) The legal rights assigned to individuals based on their sex.

30. In family therapy, a therapist who focuses on family rules, power dynamics, and the sequence of interactions is most likely using which approach?
(A) Psychodynamic approach
(B) Bowenian approach
(C) Experiential approach
(D) Strategic approach

31. Which of the following represents a correct pair of a family welfare programme and its primary focus?
(A) ICDS - Focuses on providing specialized community-based elderly care.
(B) Mid-Day Meal Scheme - Focuses on providing mandatory pre-natal nutrition.
(C) JSY - Focuses on reducing maternal and neonatal mortality.
(D) National Social Assistance Programme - Focuses on secondary education.

32. 'Tabulation' in research refers to the process of:
(A) Systematically collecting raw data through extensive field surveys.
(B) Summarizing and displaying data in systematic rows and columns.
(C) Statistically analyzing the relationship between two specific variables.
(D) Formulating a testable research hypothesis for scientific study.

33. Which of the following is an example of a positive parenting technique?
(A) Using physical punishment for misbehavior.
(B) Using reflection and explaining why behavior was wrong.
(C) Shouting at the child to establish authority.
(D) Comparing the child unfavorably with siblings or peers.

34. A family where one or both partners have children from a previous relationship is known as a:
(A) Reconstituted or blended family
(B) Single-parent family
(C) Nuclear family
(D) Extended family

35. Match the items in List I with the items in List II regarding rights and their corresponding conventions or declarations:
List I: (Right)
P. Right to non-discrimination based on sex
Q. Right to participation in decisions affecting them
R. Right to life, liberty, and security of person
S. Right to protection from economic exploitation
List II: (Primary Document)
1. Universal Declaration of Human Rights (UDHR)
2. Convention on the Rights of the Child (CRC)
3. Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)
4. CRC Article 32
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-2, R-1, S-4
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-3, R-1, S-4

36. Which conflict resolution style is characterized by a high concern for self and a low concern for others, often resulting in a "win-lose" outcome?
(A) Accommodating
(B) Collaborating
(C) Avoiding
(D) Competing

37. A key challenge for family welfare programmes in achieving their goals is:

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18. Given below are two statements:
Statement I : The health and well-being of family members are interdependent.
Statement II : A chronic illness in one family member can impact the emotional and financial well-being of the entire family system.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

19. Which approach to family welfare focuses on providing services and support to help families cope with existing problems?
(A) The developmental approach
(B) The preventive approach
(C) The remedial or clinical approach
(D) The institutional approach

20. Arrange the following stages of the family life cycle in their typical chronological order:
1. Launching children
2. Beginning family (marriage)
3. Family with adolescents
4. Family in later life
(A) 2, 3, 1, 4
(B) 1, 2, 3, 4
(C) 2, 1, 3, 4
(D) 3, 2, 4, 1

21. 'Family disorganization' is a process that can be initiated by which of the following events?
(A) The birth of a first child.
(B) A child starting school.
(C) The death of a spouse, divorce, or desertion.
(D) A family moving to a new house.

22. Community education for parenting primarily aims to:
(A) Replace the role of parents with community leaders.
(B) Create a supportive environment and social network for parents.
(C) Provide formal degrees in parenting.
(D) Enforce a single, uniform parenting style on all families.

23. Which of the following is a key challenge for a 'family in crisis'?
(A) The family experiences a temporary, minor disagreement.
(B) The family members are all in perfect agreement.
(C) The family has abundant resources to handle any problem.
(D) The family's usual coping mechanisms are ineffective.

24. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : The status of women in a society is a key indicator of its overall development.
Reason (R) : Empowered women contribute significantly to the economic productivity, health, and education of the family and community.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

25. The process of arranging collected data into groups or classes based on their common characteristics is known as:
(A) Tabulation
(B) Coding
(C) Classification
(D) Inference

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26. Which of the following is NOT a form of domestic violence as defined by the Protection of Women from Domestic Violence Act (PWDVA), 2005?
(A) Disagreement over choice of television channel
(B) Physical abuse
(C) Sexual abuse
(D) Economic abuse

27. Guidance provided to a couple before they get married to prepare them for potential challenges is called:
(A) Marital counseling
(B) Grief counseling
(C) Career counseling
(D) Pre-marital counseling

28. Consider the following components of health and well-being:
1. Physical health

85. Which of the following correctly pairs a research term with its definition?
(A) Descriptive Statistics - Making generalizations about a population.
(B) Inferential Statistics - Summarizing and organizing data.
(C) Coding - Assigning symbols to data for classification.
(D) Tabulation - Collecting primary data from the field.

86. Consider the following provisions of the Protection of Women from Domestic Violence Act (2005):
1. Protection orders to prevent the abuser from committing violence.
2. Monetary relief to meet expenses and losses.
3. Residence orders to secure a woman's right to live in the shared household.
4. Immediate imprisonment of the accused without a hearing.

Which of the above statement(s) is/are correct?
(A) 1 and 4 only
(B) 2 and 3 only
(C) 1, 2, and 3 only
(D) 1, 2, 3, and 4

87. Which of the following is an incorrect pair regarding family types?
(A) Matrilocal family - Couple resides with the wife's family.
(B) Patrilineal family - Descent is traced through the male line.
(C) Nuclear family - Comprises parents and unmarried children.
(D) Polygynous family - One woman is married to multiple men.

88. The four core principles of the Convention on the Rights of the Child (CRC) are: non-discrimination, devotion to the best interests of the child, the right to life, survival and development, and:
(A) Respect for the views of the child.
(B) The right to education.
(C) The right to play.
(D) The right to a name and nationality.

89. A major challenge in providing counseling to caregivers of individuals with chronic illness is:
(A) The caregiver's lack of interest in seeking help.
(B) The lack of any effective counseling techniques.
(C) The caregiver's own feelings of guilt, anger, and burnout.
(D) The short-term nature of the caregiving role.

90. Match the items in List I with the items in List II regarding health and life span:
List I: (Life Stage)
P. Infancy
Q. Adolescence
R. Middle Adulthood
S. Old Age
List II: (Primary Health Concern)
1. Identity crisis, peer pressure
2. Onset of chronic diseases, menopause
3. Geriatric syndromes, cognitive decline
4. Immunizations, motor skill development
(A) P-1, Q-2, R-3, S-4
(B) P-4, Q-3, R-1, S-2
(C) P-4, Q-1, R-2, S-3
(D) P-2, Q-4, R-3, S-1

91. Which of the following is the best definition of "marital disharmony"?
(A) The phase of adjustment in the first year of marriage.
(B) A legal term for the grounds of divorce.
(C) A temporary disagreement over finances.
(D) A persistent state of conflict and emotional distance.

92. The process of developing a summary of data in the form of tables is referred to as:
(A) Classification
(B) Tabulation
(C) Coding
(D) Interpretation

93. Given below are two statements:
Statement I : Single-parent families are inherently dysfunctional and unable to raise successful children.
Statement II : The success of children from single-parent families is influenced more by socio-economic stability and parental well-being.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.

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(A) Lack of international funding.
(B) Over-staffing in government agencies.
(C) Reaching remote and marginalized populations effectively.
(D) Absence of any defined goals or objectives.

38. Given below are two statements:
Statement I : Inferential statistics allows researchers to generalize findings from a sample to a larger population.
Statement II : Descriptive statistics are used to test hypotheses about the population.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

39. The emotional and psychological consequences on children growing up in a single-parent family are:
(A) Always negative and lead to maladjustment.
(B) Always positive as they become more independent.
(C) Uniform for all children in all situations.
(D) Variable and dependent on parenting quality and support.

40. Which of the following is the most comprehensive initiative for child development in India, offering a package of services including supplementary nutrition, immunization, and pre-school education?
(A) Integrated Child Development Services (ICDS)
(B) Sarva Shiksha Abhiyan (SSA)
(C) Mid-Day Meal Scheme
(D) National Health Mission (NHM)

41. Consider the following statements correctly describing aspects of marital dynamics:
1. Effective communication is a cornerstone of a stable marriage.
2. Marital satisfaction tends to remain constant throughout the lifespan.
3. Power dynamics in a marriage are always equal and balanced.
4. Shared values and goals contribute to marital cohesion.

Which of the above statement(s) is/are correct?
(A) 1 and 4 only
(B) 2 and 3 only
(C) 1, 2, and 3 only
(D) 2, 3, and 4 only

42. What is the role of family in national development?
(A) It acts as the basic unit for socializing responsible citizens.
(B) It has no role; development is purely an economic process.
(C) Its only role is to increase the national population.
(D) It primarily obstructs development by promoting traditional values.

43. 'Economic abuse' as a form of domestic violence includes all the following EXCEPT:
(A) Preventing a woman from taking up a job.
(B) Forcibly taking a woman's salary.
(C) Not providing money for maintaining the woman or her children.
(D) Having a joint bank account with a spouse.

44. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : The UN Convention on the Rights of the Child (CRC) is a landmark human rights treaty.
Reason (R) : It is the first legally binding international instrument to incorporate the full range of human rights—civil, cultural, economic, political and social—for children.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

45. In research methodology, a variable that is presumed to cause a change in another variable is called the:
(A) Dependent variable
(B) Extraneous variable
(C) Independent variable
(D) Confounding variable

46. Which of the following is a primary objective of community education on family issues?
(A) To impose a single cultural norm on all families.

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(B) To raise awareness and promote supportive social norms.
(C) To provide direct financial aid to families in need.
(D) To replace family functions with community services.

47. The term "caregiver burden" in the context of guidance and counseling refers to:
(A) The physical, emotional, and financial stress experienced by a caregiver.
(B) The financial cost of hiring a professional caregiver.
(C) The legal responsibility of a caregiver.
(D) The joy and satisfaction derived from caregiving.

48. Arrange the following human rights milestones in chronological order of their adoption:
1. Convention on the Rights of the Child (CRC)
2. Universal Declaration of Human Rights (UDHR)
3. Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)
4. Protection of Women from Domestic Violence Act, India (PWDVA)

(A) 2, 3, 1, 4
(B) 1, 2, 3, 4
(C) 2, 1, 3, 4
(D) 3, 2, 4, 1

49. 'Family therapy' is a type of psychotherapy that:
(A) Treats each family member as an isolated individual.
(B) Focuses on the family system and its patterns of interaction.
(C) Only provides treatment for children's behavioral problems.
(D) Is exclusively used for resolving legal disputes within the family.

50. Which of the following best describes the 'developmental approach' to family welfare?
(A) It aims to empower families to become self-reliant through education.
(B) It focuses on curing existing social pathologies within families.
(C) It provides emergency relief to families during disasters.
(D) It relies on legal and punitive measures to enforce family norms.

51. Consider the following as potential indicators of the status of women in a society:
1. Maternal Mortality Rate (MMR)
2. Female literacy rate
3. Female Labour Force Participation Rate (LFPR)
4. Number of national holidays
5. Average height of women

Which of the above statement(s) is/are correct as key indicators?
(A) 1, 4, and 5 only
(B) 2, 3, and 4 only
(C) 1, 2, and 3 only
(D) 1, 2, 3, 4, and 5

52. In a marital conflict, 'mediation' involves:
(A) A judge making a legally binding decision.
(B) The couple resolving the issue on their own without any help.
(C) One partner giving in to all the demands of the other.
(D) A third party facilitating communication for a voluntary agreement.

53. A major cause of 'family disorganization' in modern society is:
(A) Increased adherence to traditional values.
(B) The decline of the joint family system.
(C) High rates of divorce and separation.
(D) The rise in life expectancy.

54. The concept of 'health and well-being across the life span' implies that:
(A) Health is only a concern during childhood and old age.
(B) Health is a dynamic process with different priorities at different stages.
(C) Health needs and challenges are static and do not change with age.
(D) Mental health is not a component of overall well-being.

55. Match the items in List I with the items in List II concerning research concepts:
List I: (Concept)
P. Population
Q. Sample
R. Data

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S. Hypothesis

List II: (Description)

1. A testable statement about the relationship between variables.
2. The entire group of individuals that the research seeks to study.
3. Factual information collected for analysis.
4. A subset of the larger group selected for the study.

(A) P-4, Q-2, R-1, S-3
(B) P-2, Q-4, R-3, S-1
(C) P-2, Q-3, R-4, S-1
(D) P-1, Q-4, R-3, S-2

56. All of the following are principles of positive parenting EXCEPT:
(A) Using threats and bribes to control behavior.
(B) Showing warmth and affection.
(C) Setting clear and consistent limits.
(D) Listening and communicating respectfully.

57. The 'rights of women' are considered human rights because:
(A) Women constitute a special interest group.
(B) They are granted as a favor by governments.
(C) Women are human beings entitled to all human rights.
(D) They are outlined in a separate, non-human rights document.

58. Which of the following is a primary goal of counseling for a family in crisis?
(A) To help the family mobilize resources and develop coping strategies.
(B) To assign blame for the crisis.
(C) To make decisions for the family.
(D) To encourage the family to ignore the problem.

59. Given below are two statements:
Statement I : Changes in family structure, such as the rise of single-parent families, reflect broader societal shifts.
Statement II : Economic independence of women and changing social norms about divorce have no impact on family structures.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

60. 'Inferential statistics' are used in research to:
(A) Simply describe and summarize the data collected.
(B) Draw conclusions about a population based on a sample.
(C) Organize data into tables and charts.
(D) Create a classification system for the data.

61. Consider the following as potential consequences of marital disharmony:
1. Negative impact on children's emotional development.
2. Increased risk of mental and physical health problems for spouses.
3. Enhanced communication and problem-solving skills.
4. Higher levels of family cohesion.

Which of the above statement(s) is/are correct?
(A) 1 and 2 only
(B) 3 and 4 only
(C) 1, 2, and 3 only
(D) 2 and 4 only

62. The stage in the family life cycle where children leave the parental home for college, work, or marriage is known as the:
(A) Contracting stage
(B) Beginning stage
(C) Expanding stage
(D) Launching stage

63. Which of the following best describes the role of a counselor?
(A) To facilitate self-understanding and the ability to make choices.
(B) To give direct advice and solve the client's problems.
(C) To judge the client's actions and decisions.
(D) To prescribe medication for psychological issues.

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64. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Domestic violence is a violation of human rights.
Reason (R) : It infringes upon an individual's right to life, liberty, and security, as well as the right to be free from torture or cruel, inhuman, or degrading treatment.
(A) Both A and R are true and R is the correct

explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

65. A researcher wants to understand the lived experiences of single mothers. Which data collection method would be most appropriate?
(A) A laboratory experiment.
(B) In-depth, semi-structured interviews.
(C) A structured, multiple-choice questionnaire.
(D) Analysis of national birth rate statistics.

66. What is the central idea of Bowenian family therapy?
(A) Achieving a balance between family togetherness and individual autonomy.
(B) Restructuring family hierarchies and boundaries.
(C) Using directives and paradoxical interventions to change behavior.
(D) Re-writing the family's problem-saturated story.

67. Which of these is a key challenge for the effective implementation of family welfare programmes?
(A) An excess of financial resources.
(B) The population being too educated to accept the services.
(C) Lack of coordination between different government departments.
(D) The programmes being too simple and easy to implement.

68. The "empty nest" syndrome is a phenomenon that typically occurs during which stage of the family life cycle?
(A) Beginning family
(B) Family with young children
(C) Family with adolescents
(D) Family in later life (post-launching)

69. Which of the following is NOT a right guaranteed under the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)?
(A) Right to vote and participate in public life.
(B) Right to equal access to education and healthcare.
(C) Right to be exempt from all household responsibilities.
(D) Right to choose a spouse freely.

70. Arrange the following steps in a typical research process in the correct order:
1. Data collection
2. Formulation of hypothesis
3. Data analysis and interpretation
4. Identification of research problem
(A) 4, 2, 1, 3
(B) 1, 2, 3, 4
(C) 2, 4, 1, 3
(D) 4, 1, 2, 3

71. Which statement about single-parent families is most accurate?
(A) They are a modern phenomenon that did not exist before the 20th century.
(B) Children from single-parent families are inherently disadvantaged in all aspects of life.
(C) Single-parent families are exclusively headed by mothers.
(D) They can be formed through divorce, death, or a parent never having married.

72. One of the main goals of parent education is to:
(A) Increase parents' understanding of child development and appropriate expectations.
(B) Teach parents a single 'correct' way to raise children.
(C) Criticize parents for their existing methods.
(D) Encourage parents to give up their authority to experts.

73. The 'collaborating' style of conflict resolution is characterized by:
(A) "I lose, you win"
(B) "I win, you lose"
(C) "We both win"
(D) "We both lose"

74. A geriatric caregiver would most likely need guidance and counseling for which of the following issues?
(A) Managing the emotional stress of caring for a parent with dementia.
(B) Dealing with toddler tantrums.
(C) Preparing for pre-marital challenges.
(D) Choosing a career path for a young adult.

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75. Consider the following as potential indicators of the status of women in a society:
1. Maternal Mortality Rate (MMR)
2. Female literacy rate
3. Female Labour Force Participation Rate (LFPR)
4. Number of national holidays
5. Average height of women

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 2, 3, and 4 only
(C) 1, 4, and 5 only
(D) 2, 3, and 5 only

76. The concept that human rights are universal, inalienable, and indivisible is a cornerstone of which document?
(A) The Indian Constitution
(B) The Universal Declaration of Human Rights (UDHR)
(C) The US Declaration of Independence
(D) The Magna Carta

77. Which research method involves the systematic collection and arrangement of data in rows and columns?
(A) Coding
(B) Classification
(C) Tabulation
(D) Observation

78. Given below are two statements:
Statement I : Marital disharmony only affects the two spouses involved.
Statement II : The conflict and tension in a disharmonious marriage can create an unstable and stressful environment for children.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is false, but Statement II is true.
(D) Statement I is true, but Statement II is false.

79. A family's contribution to national development is best exemplified by:
(A) Instilling values of citizenship and productivity in its members.
(B) Consuming imported luxury goods.
(C) Encouraging migration to other countries.
(D) Maintaining high levels of internal conflict.

80. In family therapy, what does the term 'identified patient' (IP) refer to?
(A) The family member who is the most mentally healthy.
(B) The member who is seen by the family as having the problem.
(C) The therapist leading the session.
(D) The family member who pays for the therapy.

81. Which of the following is a key characteristic of the "launching stage" of the family life cycle?
(A) Adjusting to marriage and establishing a home.
(B) Accepting the exit and entry of family members as children leave.
(C) Coping with the demands of parenting young children.
(D) Adjusting to retirement and declining health.

82. Which of the following is an example of a developmental crisis in a family?
(A) The transition of a child into adolescence.
(B) The house burning down.
(C) A major car accident involving a family member.
(D) The primary earner losing their job.

83. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : The health status of individuals is influenced by family dynamics.
Reason (R) : Family provides the primary context for the development of health behaviors, diet, and emotional support systems, which are crucial for well-being across the lifespan.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

84. 'Positive parenting' is based on the principles of which field of psychology?
(A) Psychoanalysis
(B) Behaviorism
(C) Forensic psychology
(D) Developmental and child psychology

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(D) Right to express their views freely.

9. The concept of 'positive parenting' emphasizes which of the following?
(A) Utilizing strict discipline and punishment to correct behavior.
(B) Granting children complete freedom without boundaries or rules.
(C) Building a warm relationship and using non-violent discipline.
(D) Prioritizing academic achievement over emotional well-being.

10. Match the items in List I with the items in List II regarding types of family therapy:
List I: (Therapy Model)
P. Structural Family Therapy
Q. Bowenian Family Therapy
R. Strategic Family Therapy
S. Narrative Family Therapy
List II: (Core Concept)
1. Differentiation of self
2. Re-authoring life stories
3. Modifying family hierarchy and boundaries
4. Solving specific problems with direct interventions
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-2, R-1, S-4
(D) P-4, Q-1, R-3, S-2

11. What is the primary goal of guidance and counseling for caregivers?
(A) To teach caregivers medical procedures.
(B) To provide financial assistance for caregiving duties.
(C) To replace the caregiver with a professional service.
(D) To help them manage stress and improve their well-being.

12. In statistics, a measure that describes a characteristic of a sample is known as a:
(A) Parameter
(B) Statistic
(C) Variable
(D) Constant

13. Which of the following legislative acts in India specifically addresses the issue of domestic violence?
(A) The Indian Penal Code, 1860
(B) The Dowry Prohibition Act, 1961
(C) The Protection of Women from Domestic Violence Act, 2005
(D) The Child Marriage Restraint Act, 1929

14. The term 'marital disharmony' refers to:
(A) A state of complete agreement and satisfaction in a marriage.
(B) A temporary disagreement between spouses that is quickly resolved.
(C) The legal process of ending a marriage.
(D) A persistent state of conflict and maladjustment in a marriage.

15. Consider the following statements related to human rights:
1. Human rights are inherent to all human beings, regardless of race, sex, or nationality.
2. The Universal Declaration of Human Rights (UDHR) is a legally binding treaty for all UN member states.
3. Human rights are indivisible, meaning all rights are of equal importance.
4. Economic, social, and cultural rights are considered secondary to civil and political rights.
5. Human rights can be legitimately taken away by a state during a national emergency.
Which of the above statement(s) is/are correct?
(A) 1 and 3 only
(B) 1, 2, and 4 only
(C) 3, 4, and 5 only
(D) 1, 3, and 5 only

16. What is the most appropriate first step in conflict resolution between family members?
(A) Seeking legal intervention immediately.
(B) Acknowledging conflict and agreeing to communicate.
(C) Assigning blame to one party.
(D) Ignoring the problem, hoping it will disappear.

17. A researcher is studying the average age of mothers at first childbirth in a specific community. This type of research falls under:
(A) Inferential statistics
(B) Descriptive statistics
(C) Experimental research
(D) Qualitative analysis

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(C) Statement I is false, but Statement II is true.
(D) Statement I is true, but Statement II is false.

94. What is a "family crisis"?
(A) A normal developmental transition in the family life cycle.
(B) A minor, everyday problem faced by a family.
(C) A planned family event, like a vacation.
(D) A situation where usual coping mechanisms are overwhelmed.

95. Arrange the following conflict resolution strategies from least cooperative to most cooperative:
1. Collaborating
2. Competing
3. Accommodating
4. Avoiding

(A) 2, 4, 3, 1
(B) 4, 2, 1, 3
(C) 1, 3, 4, 2
(D) 2, 1, 3, 4

96. A family welfare approach that aims to prevent problems before they arise, through measures like pre-marital counseling and parent education, is known as the:
(A) Remedial approach
(B) Preventive approach
(C) Developmental approach
(D) Institutional approach

97. Gender roles are primarily determined by:
(A) Biological and genetic factors.
(B) Societal norms and cultural learning.
(C) Individual personal preference alone.
(D) Government legislation.

98. Which of the following is NOT a goal of guidance and counseling?
(A) To impose the counselor's values on the client.
(B) To help individuals make informed and voluntary choices.
(C) To facilitate self-understanding and personal growth.
(D) To help individuals cope with difficult life situations.

99. The study of health and well-being across the lifespan acknowledges that:
(A) The primary health concern for an adolescent is typically managing chronic arthritis.
(B) Nutritional needs remain constant from infancy to old age.
(C) Mental health is a crucial component of well-being at every age.
(D) Social relationships have no impact on physical health.

100. Consider the following statements about data analysis:
1. Descriptive statistics are used to organize and summarize data.
2. Inferential statistics are used to draw conclusions about a population from a sample.
3. Coding is the process of assigning numerical values to qualitative data.
4. Tabulation involves presenting data in a structured, tabular format.
5. All research data must be quantitative in nature.

Which of the above statement(s) is/are correct?
(A) 1, 2, 3, and 4 only
(B) 1, 2, and 5 only
(C) 3, 4, and 5 only
(D) 1, 3, and 5 only

101. What is the fundamental difference between marriage and family?
(A) Marriage is a social institution, while family is a biological group.
(B) There is no difference; the terms are interchangeable.
(C) Marriage is a legal contract; family is the resulting kinship group.
(D) Family only includes blood relatives, while marriage includes in-laws.

102. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Family plays a critical role in national development.
Reason (R) : As the primary agent of socialization, the family shapes the values, attitudes, and skills of the future workforce and citizenry.

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patterns of interaction.
(B) Prescribing medication to all family members.
(C) Deciding which family member is to blame for all problems.
(D) Focusing only on the past and childhood traumas.

163. The concept of 'gender' is distinct from 'sex' in that:
(A) 'Gender' is biological, while 'sex' is a social construct.
(B) The terms are identical and can be used interchangeably.
(C) 'Sex' is biological, while 'gender' is a social construct.
(D) 'Sex' refers to humans, while 'gender' refers to animals.

164. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Counseling for caregivers is an essential component of holistic healthcare for patients with chronic conditions.
Reason (R) : The well-being of the caregiver directly impacts the quality of care the patient receives.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

165. A researcher studying the impact of a parent education program on parenting styles randomly assigns parents to either an experimental or control group. This is an example of:
(A) Descriptive research
(B) Historical research
(C) Experimental research
(D) Correlational research

166. A critical aspect of well-being in later life (old age) is:
(A) Learning to walk and talk.
(B) Maintaining social connections and adapting to physical changes.
(C) Establishing a career.
(D) Forming a romantic partnership for the first time.

167. Which of the following is a method of data collection in research?
(A) Mean
(B) Standard deviation
(C) Hypothesis
(D) Questionnaire

168. The "sandwich generation" refers to adults who are:
(A) Caring for their own children while also caring for parents.
(B) Unemployed and financially dependent on their parents.
(C) In the middle of their careers.
(D) Recently retired and enjoying leisure time.

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169. A key contribution of the family to national development is its role in:
(A) Increasing national debt.
(B) Promoting political instability.
(C) Human capital formation through health and education.
(D) Discouraging female labor force participation.

170. Consider the following as potential impacts of domestic violence on children:
1. Behavioral problems like aggression or withdrawal.
2. Emotional distress, including anxiety and depression.
3. Improved academic performance due to increased focus.
4. Normalization of violence as a way to resolve conflict.
5. Enhanced social skills from navigating a difficult environment.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4 only
(B) 3 and 5 only
(C) 1, 2, 3, and 4 only
(D) 1, 2, and 5 only

171. A major aim of community education on family issues is:
(A) To enforce a uniform family structure.
(B) To provide financial support to all families in the community.
(C) To take over the role of parenting from the

(B) Remorse, apology, and kindness from the abuser.
(C) The victim leaving the relationship permanently.
(D) Indifference from both parties.

113. A key goal of parent education programs is to:
(A) Make all parents follow a single, standardized parenting manual.
(B) Promote understanding of child development stages and needs.
(C) Undermine parental authority.
(D) Provide a substitute for parental care.

114. Which situation is a direct cause of family disorganization?
(A) The desertion of a spouse.
(B) A family celebrating a festival together.
(C) A child getting good grades in school.
(D) The purchase of a new car.

115. A therapist helps a family reframe their problems and develop a new, more positive life story. This technique is central to which type of family therapy?
(A) Structural Family Therapy
(B) Strategic Family Therapy
(C) Narrative Family Therapy
(D) Bowenian Family Therapy

116. The principle of 'best interests of the child' from the CRC implies that:
(A) The child's wishes should always be followed without question.
(B) Ensuring specific economic interests of parents remains paramount.
(C) Denying the state any legitimate role in protecting children.
(D) The child's well-being should be a primary consideration.

117. Given below are two statements:
Statement I : Guidance and counseling are synonymous terms referring to the same process.
Statement II : Guidance is a broader concept that is often preventive, while counseling is more focused on existing problems.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is false, but Statement II is true.
(D) Statement I is true, but Statement II is false.

118. A key aspect of health in adolescence is:
(A) Managing chronic illnesses associated with aging.
(B) Developing identity and navigating peer relationships.
(C) Learning basic motor skills like walking and talking.
(D) Adjusting to retirement and loss of a spouse.

119. A researcher uses interviews to collect data, then categorizes the responses into themes like 'financial stress'. This process of categorization is an example of:
(A) Tabulation
(B) Inferential statistics
(C) Hypothesis testing
(D) Qualitative data coding

120. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : The rise in single-parent families presents unique challenges to social policy.
Reason (R) : These families often face a higher risk of poverty and social exclusion, requiring targeted support in areas like childcare, housing, and employment.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

121. The dynamic of a relationship changing from a dyad (couple) to a triad (couple with a child) occurs at which stage of the family life cycle?
(A) Beginning family
(B) Launching center family
(C) Childbearing family
(D) Aging family

122. Which of the following is a characteristic of an egalitarian family?
(A) Power and authority are shared between the husband and wife.
(B) The mother has the final say in all decisions.
(C) The father has the final say in all decisions.
(D) The eldest son inherits all authority and property.

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(D) 1, 2, 3, and 4

182. 'Gender stereotyping' is a significant barrier to achieving:
(A) Higher population growth.
(B) Gender equality and an improved status for women.
(C) The preservation of traditional culture.
(D) Economic disparity.

183. Guidance and counseling for a young couple about to be married would focus on all the following EXCEPT:
(A) Communication skills
(B) Financial planning
(C) Conflict resolution strategies
(D) Geriatric care planning

184. The concept of "health" by the World Health Organization (WHO) is defined as a state of complete physical, mental, and _____ well-being.
(A) social
(B) financial
(C) spiritual
(D) political

185. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Coding is a crucial step in quantitative data analysis.
Reason (R) : It transforms qualitative or verbal data into a numerical format, which allows for statistical manipulation and analysis.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

186. The final stage of the family life cycle is often characterized by:
(A) Adjustment to retirement, widowhood, and becoming grandparents.
(B) The birth of the first child.
(C) Children entering adolescence.
(D) The children leaving home for college or work.

187. The Integrated Child Development Services (ICDS) program in India primarily targets:
(A) Children above 14 years and their mothers.
(B) Only adolescent girls.
(C) Elderly citizens.
(D) Children up to 6 years, pregnant women, and lactating mothers.

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188. In the context of conflict resolution, 'negotiation' refers to:
(A) A process where a third party makes a binding decision.
(B) A discussion between parties with the aim of reaching an agreement.
(C) One party imposing its will on another.
(D) Avoiding a conflict entirely.

189. A key message of parent education is that:
(A) There is only one right way to be a parent.
(B) Children do not need discipline, only love.
(C) Effective parenting skills can be learned and developed.
(D) Parents should not show affection to their children.

190. Match the items in List I with the items in List II:
List I: (Family Concept)
P. Blended Family
Q. Egalitarian Family
R. Patrilocal Residence
S. Matrilineal Descent
List II: (Definition)
1. Power is shared between spouses.
2. The newly married couple lives with or near the husband's family.
3. A family formed by remarriage, including children from previous unions.
4. Kinship is traced through the female line.
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-3, R-4, S-2
(C) P-3, Q-2, R-1, S-4
(D) P-4, Q-1, R-2, S-3

191. A significant challenge for many single-parent families is:
(A) Social stigma and lack of supportive policies.
(B) An excess of free time.
(C) Having too many adults involved in child-rearing.
(D) Lack of motivation in the parent.

133. Which of the following is a common issue addressed in counseling for caregivers?
(A) Career advancement
(B) Investment strategies
(C) Burnout and stress management
(D) Adolescent rebellion

134. Which of the following is NOT a right of women under the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)?
(A) The right to equality in marriage and family relations.
(B) The right to unilateral divorce without legal process.
(C) The right to acquire, change or retain their nationality.
(D) The right to protection of maternity without discrimination.

135. Match the items in List I with the items in List II:
List I: (Concept)
P. Domestic Violence
Q. Marital Disharmony
R. Conflict Resolution
S. Positive Parenting
List II: (Key Feature)
1. Negotiation and mediation
2. Authoritative, warm, and communicative approach
3. Pattern of abusive behavior to maintain power and control
4. Persistent state of discord and lack of adjustment in marriage
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

136. A family that includes relatives beyond the nuclear family, such as grandparents, aunts, or uncles, is called a(n):
(A) Extended family
(B) Nuclear family
(C) Blended family
(D) Single-parent family

137. Which of the following statements about the role of family in national development is INCORRECT?
(A) The family is the basic unit of consumption and savings.
(B) The family socializes children into becoming productive citizens.
(C) The family functions in complete isolation from economic systems.
(D) The health and educational status of a family affects development.

138. The 'avoiding' style of conflict management involves:
(A) Sidestepping, postponing, or withdrawing from the conflict.
(B) Actively engaging to find a win-win solution.
(C) Asserting one's own position at the expense of the other.
(D) Giving in to the other person's demands.

139. Given below are two statements:
Statement I : Positive parenting involves setting firm, consistent, and fair limits for children.
Statement II : The goal of setting limits is to punish the child, not to teach them self-control and appropriate behavior.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

140. Which factor is a common precursor to family disorganization?
(A) A stable and high family income.
(B) Chronic and unresolved marital conflict.
(C) Strong interpersonal communication.
(D) Shared family rituals and traditions.

141. Consider the following statements regarding characteristics of a family in crisis:
1. The family is experiencing a state of disequilibrium.
2. The family's usual problem-solving methods are not working.
3. The crisis is always caused by an external event.
4. The outcome of a crisis can be a return to a lower, the same, or a higher level of functioning.
Which of the above statement(s) is/are correct?
(A) 1 and 3 only
(B) 1, 2, and 4 only
(C) 2 and 4 only

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(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

103. 'Conflict resolution' is a process aimed at:
(A) Identifying a winner and a loser in a dispute.
(B) Finding a peaceful and mutually acceptable solution to a disagreement.
(C) Suppressing all forms of disagreement within the family.
(D) Finding a peaceful and mutually acceptable solution to a disagreement.

104. Which of the following is the most defining feature of 'positive parenting'?
(A) A focus on child strengths and a warm relationship.
(B) Authoritarian control over the child.
(C) Permissiveness with no rules or boundaries.
(D) Prioritizing academic achievement above all else.

105. Match the items in List I with the items in List II:
List I: (Term)
P. Family disorganization
Q. Single-parent family
R. Family crisis
S. Family therapy
List II: (Description)
1. A state of acute disruption where usual coping mechanisms fail.
2. A therapeutic intervention focusing on the family system.
3. Breakdown of family structure and functions due to events like divorce.
4. A family structure with one parent and one or more dependent children.
(A) P-3, Q-4, R-1, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-1, R-4, S-2
(D) P-4, Q-3, R-2, S-1

106. A family in which authority is held by the eldest male is known as a:
(A) Patriarchal family
(B) Matriarchal family
(C) Egalitarian family
(D) Neolocal family

107. The 'status of women' refers to:
(A) Her position only within the family structure.
(B) Her legal right to own property.
(C) Her number of children.
(D) Her position in the social hierarchy determined by access to power.

108. Counseling for caregivers of chronically ill patients is crucial because it helps address:
(A) The patient's medical needs directly.
(B) The caregiver's feelings of isolation and stress.
(C) Legal issues related to inheritance.
(D) The family's financial planning.

109. Which statement is INCORRECT about health and well-being?
(A) It is a multidimensional concept including physical, mental, and social aspects.
(B) Needs and priorities for well-being change across the life span.
(C) It is a static state achieved in early adulthood.
(D) Family environment significantly influences an individual's health.

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110. In research, the entire set of individuals or objects of interest to the researcher is called:
(A) A sample
(B) A variable
(C) A statistic
(D) A population

111. Consider the following recognized approaches to family welfare:
1. Remedial or Clinical Approach
2. Preventive Approach
3. Punitive Approach
4. Developmental Approach
Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 1, 2, and 4 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

112. The cycle of violence theory in domestic abuse suggests that a violent episode is often followed by a period of:
(A) Increased tension and anger.

(B) The patterns of communication between family members.
(C) The stories and narratives the family tells about itself.
(D) The family's hierarchy, boundaries, and subsystems.

152. Which of the following is a primary right of women as per international human rights law?
(A) The right to be free from discrimination.
(B) The right to a government-mandated job.
(C) The right to not pay taxes.
(D) The right to automatic leadership positions.

153. A person caring for both their own young children and their aging parents at the same time is referred to as being in the:
(A) "Empty nest" generation
(B) "Boomer" generation
(C) "Sandwich" generation
(D) "Millennial" generation

154. What is the most significant health and well-being challenge during infancy?
(A) Proper nutrition, immunization, and secure attachment.
(B) Developing a sense of personal identity.
(C) Adjusting to retirement.
(D) Navigating peer pressure and academic stress.

155. A researcher makes a tentative, testable prediction about the relationship between two or more variables. This is known as a(n):
(A) Theory
(B) Conclusion
(C) Observation
(D) Hypothesis

156. The term 'family dynamics' refers to:
(A) The structure and size of the family.
(B) The patterns of interaction and relationships.
(C) The family's financial status.
(D) The legal definition of a family.

157. Which of the following is an example of a family welfare programme in India?
(A) National Highway Development Project
(B) Goods and Services Tax (GST)
(C) Integrated Child Development Services (ICDS)
(D) Make in India Initiative

158. Given below are two statements:
Statement I : Marital conflict is always destructive and should be avoided at all costs.
Statement II : Constructive conflict, when managed well, can lead to better understanding and a stronger relationship.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is false, but Statement II is true.
(D) Statement I is true, but Statement II is false.

159. An authoritative parenting style, often promoted in parent education, is characterized by:
(A) High warmth and high control.
(B) High control and low warmth.
(C) High warmth and low control.
(D) Low warmth and low control.

160. Match the items in List I with the items in List II regarding legal instruments:
List I: (Legal Instrument)
P. PWDVA, 2005
Q. CEDAW
R. CRC
S. UDHR
List II: (Scope)
1. General principles of human rights for all.
2. Specific rights of children.
3. Protection against domestic violence in India.
4. Elimination of discrimination against women.
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-2, S-1
(C) P-3, Q-2, R-4, S-1
(D) P-4, Q-1, R-2, S-3

161. A family becomes a 'single-parent family' through all of the following circumstances EXCEPT:
(A) Divorce of the parents.
(B) The birth of the first child to a married couple.
(C) Death of one parent.
(D) A parent choosing to raise a child alone without marrying.

162. A core activity in family therapy is:
(A) Identifying and altering dysfunctional

123. The 'Developmental Approach' to family welfare primarily focuses on:
(A) Providing temporary relief during emergencies.
(B) Punishing families that do not conform to social norms.
(C) Treating existing problems and pathologies within the family.
(D) Building capacities and self-reliance through education.

124. Which of the following is an example of 'emotional abuse' in the context of domestic violence?
(A) Hitting or slapping.
(B) Constant criticism, humiliation, and insults.
(C) Denying access to money.
(D) Forcing sexual acts.

125. Consider the following initiatives related to child development in India:
1. Integrated Child Development Services (ICDS)
2. Sarva Shiksha Abhiyan (SSA)
3. National Pension System (NPS)
4. Mid-Day Meal Scheme
5. Pradhan Mantri Jan Arogya Yojana (PM-JAY)

Which of the above statement(s) is/are correct as direct child development initiatives?
(A) 1, 2 and 4 only
(B) 1, 3 and 5 only
(C) 2, 3 and 4 only
(D) 3, 4 and 5 only

126. The term 'human rights' is based on the principle of:
(A) The superiority of one culture over another.
(B) The authority of the state over the individual.
(C) The economic value of a person.
(D) Respect for the dignity and worth of every individual.

127. Pre-marital counseling primarily aims to:
(A) Assess compatibility and develop communication skills.
(B) Help couples plan their wedding ceremony.
(C) Provide legal advice for divorce proceedings.
(D) Arrange for housing and finances for the new couple.

128. What does "well-being across the life span" imply?
(A) Well-being is a fixed attribute determined at birth.
(B) Components and challenges of well-being differ at various life stages.
(C) Physical health is the only important factor for well-being.
(D) Well-being is solely an individual's responsibility.

129. A mean, median, and mode are all types of:
(A) Measures of dispersion
(B) Measures of central tendency
(C) Inferential statistics
(D) Data collection tools

130. Arrange the following events in a logical sequence of family disorganization:
1. Marital conflict and disharmony
2. Filing for divorce
3. Formation of single-parent families
4. Legal separation

(A) 1, 2, 4, 3
(B) 2, 1, 4, 3
(C) 1, 4, 2, 3
(D) 4, 1, 2, 3

131. The primary difference between descriptive and inferential statistics is that:
(A) Descriptive statistics uses charts, while inferential statistics uses tables.
(B) Descriptive statistics is qualitative, while inferential statistics is quantitative.
(C) Descriptive statistics summarizes sample data, while inferential statistics generalizes.
(D) Descriptive statistics is complex, while inferential statistics is simple.

132. Community education on parenting is effective because it:
(A) Punishes parents who do not attend sessions.
(B) Replaces the need for individual family counseling.
(C) Provides a one-size-fits-all solution for every family.
(D) Creates a social norm that values positive parenting.

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parents.
(D) To destigmatize issues and promote seeking help.

172. The term "family disorganization" implies a:
(A) Temporary state of chaos during a family vacation.
(B) Breakdown in performance of roles and social controls.
(C) Planned restructuring of the family for better efficiency.
(D) Normal stage in every family's life cycle.

173. The primary goal of Salvador Minuchin's Structural Family Therapy is to:
(A) Explore the family's unconscious motivations.
(B) Re-author the family's problem-saturated story.
(C) Restructure the family by altering boundaries and hierarchies.
(D) Teach the family specific communication skills.

174. The principle "All human beings are born free and equal in dignity and rights" is the first article of which document?
(A) Convention on the Rights of the Child (CRC)
(B) Indian Constitution
(C) Protection of Women from Domestic Violence Act (PWDVA)
(D) Universal Declaration of Human Rights (UDHR)

175. Arrange the following life stages in the correct developmental sequence:
1. Adolescence
2. Old Age
3. Infancy
4. Middle Adulthood

(A) 3, 1, 4, 2
(B) 1, 3, 4, 2
(C) 3, 4, 1, 2
(D) 2, 4, 1, 3

176. A researcher calculates the average income of a sample of families. This average is a:
(A) Parameter
(B) Statistic
(C) Hypothesis
(D) Population

177. Which of the following best captures the essence of marital dynamics?
(A) A fixed set of rules governing a marriage.
(B) The evolving interplay of communication, power, and roles.
(C) The economic transactions between two families.
(D) The legal obligations of a husband and wife.

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178. Given below are two statements:
Statement I : The "remedial approach" to family welfare focuses on addressing problems after they have occurred.
Statement II : The "developmental approach" to family welfare aims to build family capacity and prevent problems from arising.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

179. A key element in constructive conflict resolution is:
(A) Focusing on blaming the other person.
(B) Bringing up past grievances that are unrelated.
(C) Using "I" statements to express feelings and needs.
(D) Refusing to listen to the other person's perspective.

180. A parent who is very demanding but also very responsive to their child's needs is demonstrating which parenting style?
(A) Authoritarian
(B) Permissive
(C) Uninvolved
(D) Authoritative

181. Consider the following as central themes in family studies:
1. Family as a system in crisis.
2. The application of family therapy.
3. Initiatives for child development.
4. The role of family in national politics.

Which of the above statement(s) is/are correct?
(A) 1 and 2 only
(B) 1, 2, and 3 only
(C) 3 and 4 only

(D) 1, 2, 3, and 4

142. The right of a child to be protected from economic exploitation is enshrined in:
(A) The Universal Declaration of Human Rights (UDHR).
(B) The Declaration of the Rights of Man and of the Citizen.
(C) The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW).
(D) The Convention on the Rights of the Child (CRC).

143. Which type of counseling would be most appropriate for an individual struggling with the recent death of a spouse?
(A) Grief or bereavement counseling
(B) Pre-marital counseling
(C) Career counseling
(D) Substance abuse counseling

144. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Geriatric health requires a specialized focus within the broader framework of lifespan health.
Reason (R) : The elderly population faces unique health challenges, including multi-morbidity, frailty, and cognitive decline, which require specific care strategies.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

145. A researcher creates a table showing the frequency of different marital statuses in her sample. This process is an example of:
(A) Coding
(B) Classification and Tabulation
(C) Inferential analysis
(D) Hypothesis formulation

146. A marriage in which the partners are chosen by their families is known as:
(A) An arranged marriage
(B) A love marriage
(C) An open marriage
(D) A companionate marriage

147. A government policy that provides cash incentives to women who give birth in a hospital is part of which family welfare approach?
(A) A purely developmental approach
(B) A purely punitive approach
(C) A mix of preventive and remedial approaches
(D) A laissez-faire approach

148. The "honeymoon phase" in the cycle of violence is dangerous because:
(A) It is the most violent phase.
(B) It involves severe economic abuse.
(C) It never actually occurs.
(D) It gives the victim false hope that the abuser has changed.

149. The main purpose of community education in the context of family studies is to:
(A) Provide formal certification in family management.
(B) Isolate families from community influence.
(C) Create a supportive environment for addressing family issues.
(D) Replace the role of schools and colleges.

150. Consider the following statements regarding single-parent families:
1. They can be headed by either a mother or a father.
2. The primary cause is always the death of a spouse.
3. They often face challenges of role overload and financial pressure.
4. Children in these families are incapable of forming secure attachments.
5. The number of single-parent families has been increasing in recent decades.

Which of the above statement(s) is/are correct?
(A) 1 and 3 only
(B) 2, 4, and 5 only
(C) 1, 3, and 5 only
(D) 2 and 4 only

151. 'Structural Family Therapy', pioneered by Salvador Minuchin, focuses on:
(A) The family's unresolved issues from the past.

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192. A crisis that arises from an unanticipated event, such as a natural disaster, a sudden illness, or job loss, is known as a(n):
(A) Developmental crisis
(B) Situational or external crisis
(C) Normative crisis
(D) Internal crisis

193. The idea that women and men should have equal rights, responsibilities, and opportunities is known as:
(A) Gender profiling
(B) Gender equality
(C) Gender bias
(D) Gender role conformity

194. The "empty nest" transition can be a source of psychological distress for some parents, a situation for which they might seek:
(A) Guidance and counseling for life transitions
(B) Pre-marital counseling
(C) Career guidance
(D) Child behavioral therapy

195. Consider the following statements regarding the role of family in health and well-being:
1. Family health behaviors (e.g., diet, exercise) strongly influence an individual's health.
2. A supportive family environment can be a buffer against stress and mental illness.
3. Health and illness in one member do not affect the rest of the family system.
4. Families are the primary setting for health education in early life.
5. Genetic predispositions to certain illnesses are transmitted through families.

Which of the above statement(s) is/are correct?
(A) 1, 2, 3, and 4 only
(B) 1, 2, 4, and 5 only
(C) 3, 4, and 5 only
(D) 1, 3, and 5 only

196. The process of dividing a population into subgroups before sampling to ensure adequate representation is called:
(A) Random sampling
(B) Quota sampling
(C) Convenience sampling
(D) Stratified sampling

197. A key dynamic in marriage is the balance between:
(A) Love and hate.
(B) Work and sleep.
(C) Individuality and togetherness.
(D) Past and future.

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198. A family welfare programme that provides skill training to women to start their own small businesses is an example of which approach?
(A) The remedial approach
(B) The developmental approach
(C) The regulatory approach
(D) The clinical approach

199. Given below are two statements:
Statement I : Domestic violence is a private family matter and should not be subject to legal intervention.
Statement II : Domestic violence is a violation of human rights and a criminal offense.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is false, but Statement II is true.
(D) Statement I is true, but Statement II is false.

200. Positive parenting aims to foster which qualities in a child?
(A) Self-esteem, resilience, and empathy.
(B) Fear and blind obedience.
(C) Dependence and lack of initiative.
(D) Aggressiveness and competitiveness.

201. Which of the following is the most accurate statement about family disorganization?
(A) It is always a sudden event.
(B) It only happens in low-income families.
(C) It is a process that involves the breakdown of family roles.
(D) It is a sign of societal progress.

202. A therapist asks a family, "If a miracle happened overnight and the problem was solved, what would be the first thing you would notice?" This is characteristic of:
(A) Solution-Focused Brief Therapy
(B) Structural Family Therapy
(C) Bowenian Therapy
(D) Psychoanalytic Therapy

203. The term 'status of women' encompasses all of the following dimensions EXCEPT:
(A) Economic participation and opportunity
(B) Educational attainment
(C) Political empowerment
(D) The number of public holidays in a country

204. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : The need for guidance and counseling exists across the entire life span.
Reason (R) : Individuals face different developmental tasks, challenges, and transitions at each stage of life, from childhood to old age.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

205. Health and well-being in middle adulthood are often concerned with:
(A) Preventing infectious childhood diseases.
(B) Learning to walk and develop language.
(C) Managing the onset of chronic conditions like hypertension.
(D) Coping with the challenges of puberty.

206. Consider the following steps in research methods for family studies:
1. Data collection techniques like surveys and interviews.
2. Classification and coding of data.
3. Tabulation and presentation of data.
4. Application of descriptive and inferential statistics.

Which of the above statement(s) is/are correct?
(A) 1 and 2 only
(B) 3 and 4 only
(C) 1, 2, and 3 only
(D) 1, 2, 3, and 4

207. A marriage between one man and one woman is called:
(A) Monogamy
(B) Polygyny
(C) Polyandry
(D) Cenogamy

208. The ultimate goal of family welfare programmes is to:
(A) Increase the government's control over families.
(B) Enhance quality of life and well-being of families.
(C) Promote a specific family structure.
(D) Provide financial assistance to every family in the country.

209. A 'no-win, no-lose' approach to conflict where both parties make concessions is known as:
(A) Competing
(B) Compromising
(C) Accommodating
(D) Avoiding

210. A parent who says, "Do it because I said so!" and is not responsive to the child's perspective is exhibiting which parenting style?
(A) Authoritarian
(B) Authoritative
(C) Permissive
(D) Uninvolved

211. Which factor is most likely to lead to the disorganization of a family unit?
(A) Regular family dinners.
(B) The birth of a healthy child.
(C) Severe, unresolved conflict and domestic violence.
(D) A child's success in school.

212. A family facing a crisis is best served by therapy that initially focuses on:
(A) Exploring the childhood of the grandparents.
(B) Assigning blame for the crisis.
(C) Changing the fundamental personality of each family member.
(D) Stabilizing the situation and restoring equilibrium.

213. Given below are two statements:
Statement I : The rights of women and the rights of children are completely separate and unrelated issues.
Statement II : The well-being and empowerment of women are often directly linked to the well-being and protection of their children.
(A) Both Statement I and Statement II are true.

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(B) Both Statement I and Statement II are false.
(C) Statement I is false, but Statement II is true.
(D) Statement I is true, but Statement II is false.

214. Counseling provided to family members who are caring for a relative with a disability or terminal illness is an example of:
(A) Career counseling
(B) Caregiver counseling
(C) Pre-marital counseling
(D) Educational counseling

215. A public health campaign aimed at promoting vaccinations for infants is an initiative focused on well-being during which life stage?
(A) Adolescence
(B) Old Age
(C) Middle Adulthood
(D) Infancy

216. In research, the group that does not receive the experimental treatment is called the:
(A) Control group
(B) Experimental group
(C) Sample group
(D) Population group

217. A family structure that is created through the process of divorce and remarriage is known as a:
(A) Matriarchal family
(B) Joint family
(C) Reconstituted or blended family
(D) Consanguineal family

218. The "clinical approach" to family welfare is best described as:
(A) Remedial
(B) Preventive
(C) Developmental
(D) Universal

219. Which of the following is a characteristic of healthy conflict resolution in a marriage?
(A) The silent treatment
(B) Blaming and name-calling
(C) Bringing up unrelated past arguments
(D) Active listening and empathy

220. Match the items in List I with the items in List II regarding parenting concepts:
List I: (Concept)
P. Authoritative Parenting
Q. Positive Parenting
R. Community Education
S. Parent Education
List II: (Focus)
1. Formal programs to teach parenting skills and child development.
2. Creating a supportive social environment for families.
3. A style balancing high warmth with clear boundaries.
4. An approach emphasizing a strong foundation for discipline.
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-4, Q-3, R-1, S-2

221. A common psychological impact on children of family disorganization due to divorce is:
(A) A sense of stability and security.
(B) Improved academic performance.
(C) Feelings of loss, divided loyalty, and self-blame.
(D) A stronger relationship with both parents simultaneously.

222. Consider the following reasons for a family to seek therapy:
1. Frequent and intense conflict.
2. A child's behavioral problems.
3. Coping with a major life transition or trauma.
4. A desire to improve communication.
5. Needing someone to decide who is right and who is wrong.
Which of the above statement(s) is/are correct?
(A) 1, 2, 3, and 4 only
(B) 5 only
(C) 1, 2, and 5 only
(D) 3, 4, and 5 only

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223. The denial of inheritance rights to daughters in some cultures is a violation of their:
(A) Economic rights
(B) Political rights
(C) Civil rights
(D) Social rights

224. A key skill for a counselor working with any age group is:

the disruption of established roles, relationships, and functions. This process can stem from various stressors such as chronic conflict, economic hardship, or the departure or loss of a parent. A prominent outcome of family disorganization is the rise of single-parent families, a demographic that has become increasingly common. While often viewed through a deficit lens, single-parent families are more accurately understood as an alternative family structure with a unique set of challenges and strengths. The primary challenges often include financial strain due to reliance on a single income, role overload for the parent who must juggle multiple responsibilities, and potential social stigma. However, these families can also cultivate significant strengths, such as a high degree of closeness between the parent and child, increased responsibility and independence in children, and the absence of spousal conflict that may have characterized the previous family structure. Understanding family disorganization requires moving beyond simplistic labels and examining the processes of adaptation and resilience within these evolving family forms. The functionality of a single-parent family, like any family, depends more on the quality of relationships and the availability of support systems than on its structure alone.

Based on the above source, attempt the following five questions.

271. What is the most accurate definition of "family disorganization" according to the passage?
(A) The physical separation of family members
(B) The exclusive formation of single-parent families
(C) The disruption of the family unit's roles, relationships, and functions
(D) The presence of chronic economic hardship in a family

272. The passage suggests that single-parent families should be understood as:
(A) an inherently dysfunctional and problematic family form.
(B) an alternative family structure with unique strengths and challenges.
(C) a temporary phase before a new two-parent family is formed.
(D) a direct result of financial irresponsibility.

273. Which of the following is mentioned in the text as a potential strength of single-parent families?
(A) The absence of financial strain
(B) The ease of managing parental roles
(C) The elimination of social stigma
(D) A high degree of closeness between parent and child

274. According to the passage, what is a more critical determinant of a family's functionality than its structure?
(A) The quality of relationships and support systems
(B) The number of children in the family
(C) The family's geographical location
(D) The age of the parent or parents

275. The term "role overload" in the context of single-parent families, as implied by the passage, refers to:
(A) the child being given too much independence at an early age.
(B) the family having too many social support systems to manage.
(C) the parent having to perform multiple roles and juggle many responsibilities.
(D) the community placing too many expectations on the single parent.

Direction : Please read the following source carefully.

A family in crisis is one that is experiencing a state of disequilibrium, where its usual coping mechanisms are overwhelmed by a stressful event or a series of events. This crisis can be triggered by predictable life cycle transitions or by unexpected situations like severe illness, job loss, or natural disaster. The key feature of a crisis is not the event itself, but the family's inability to restore stability using its existing resources. In such situations, family therapy emerges as a crucial professional intervention. Unlike individual therapy, family therapy views the family as a system and treats the family unit as the client. The primary goal is to improve communication, solve problems, and resolve conflicts by altering the patterns of interaction among family members. Therapists work to help the family identify its dysfunctional patterns, harness its strengths, and develop new, more effective ways of relating to one another. Such interventions are also vital initiatives

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(B) Adolescence
(C) Young Adulthood
(D) Later Life / Old Age

236. A researcher wants to study the relationship between hours of study and exam scores. The 'hours of study' is the:
(A) Dependent variable
(B) Independent variable
(C) Control variable
(D) Extraneous variable

237. The 'family life cycle' is a concept used to describe:
(A) The daily routine of a family.
(B) The genetic lineage of a family.
(C) Predictable stages and developmental tasks a family goes through.
(D) The legal obligations of family members.

238. Which statement best describes the role of family in national development?
(A) The family is an obstacle to modernization and development.
(B) The family's only role is biological reproduction.
(C) The family has no connection to the economic or political sphere.
(D) The family is the fundamental unit that nurtures human capital.

239. The Protection of Women from Domestic Violence Act (PWDVA), 2005, provides protection from domestic violence to:
(A) Any woman who is or has been in a domestic relationship.
(B) Only married women.
(C) Only women in a live-in relationship.
(D) Only elderly women.

240. Consider the following as key principles of positive parenting:
1. Using harsh physical punishment for discipline.
2. Creating a safe, engaging environment for the child.
3. Having realistic expectations about the child's development.
4. Using assertive discipline and clear communication.
5. Ignoring the child's emotional needs.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 2, 3, and 4 only
(C) 1, 4, and 5 only
(D) 2, 3, and 5 only

241. 'Family disorganization' differs from 'family crisis' in that:
(A) Disorganization is a temporary state, while a crisis is permanent.
(B) Disorganization refers to breakdown of roles, while a crisis overwhelms coping.
(C) A crisis is always positive, while disorganization is always negative.
(D) There is no difference between the two terms.

242. A key goal of all forms of family therapy is to:
(A) Improve communication and change dysfunctional interaction patterns.
(B) Prove which family member is causing the problems.
(C) Encourage the family to separate.
(D) Medicate the 'identified patient'.

243. The Universal Declaration of Human Rights (UDHR) was adopted by the UN General Assembly in which year?
(A) 1928
(B) 1968
(C) 1948
(D) 1988

244. A person who is simultaneously caring for their young children and their aging parents is part of the:
(A) Nuclear generation
(B) Lost generation
(C) Beat generation
(D) Sandwich generation

245. Arrange the following research steps in the correct chronological order:
1. Coding and Tabulation
2. Data Collection
3. Defining the Research Problem
4. Analysis and Interpretation
(A) 3, 2, 1, 4
(B) 2, 3, 1, 4
(C) 3, 1, 2, 4
(D) 1, 3, 2, 4

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limited resources, hindering development.

259. Based on the source, an educational campaign on prenatal nutrition would be an example of which type of family welfare approach?
(A) Rehabilitative
(B) Developmental
(C) Preventive
(D) Integrative

260. What role does the family unit play in national development, according to the passage?
(A) It functions as a primary agent for socialization and human capital formation.
(B) It acts as a consumer of state-provided welfare services.
(C) It serves as a check on the power of the state in social matters.
(D) It is primarily responsible for the economic production of the nation.

Direction : Please read the following source carefully.

The stability of the family unit is often threatened by internal strife, most notably domestic violence and marital disharmony. Domestic violence is a pattern of abusive behaviors by one partner against another in an intimate relationship, encompassing physical, emotional, sexual, and economic abuse. It represents a severe violation of human rights and has devastating consequences for the victim, children, and the overall family environment. Marital disharmony, while sometimes a precursor to violence, can also exist independently as a state of persistent conflict, poor communication, and emotional estrangement. This conflict is not a singular event but a process that can escalate if left unaddressed. The resolution of conflict is therefore a critical intervention for preserving family integrity. Effective conflict resolution strategies move beyond simply ending a dispute; they aim to address the underlying issues, improve communication patterns, and re-establish a sense of mutual respect and understanding. These methods can range from informal negotiation and compromise between partners to formal interventions like mediation or therapy. The goal of conflict resolution is not to eliminate disagreements entirely, as they are a natural part of any relationship, but to equip the family with constructive ways to manage and resolve them, thereby preventing the escalation into chronic disharmony or violence.

Based on the above source, attempt the following five questions.

261. What distinction does the passage make between domestic violence and marital disharmony?
(A) Marital disharmony is always physical, whereas domestic violence can be emotional.
(B) Marital disharmony only affects the couple, whereas domestic violence also affects the children.
(C) Domestic violence is a singular event, while marital disharmony is a continuous process.
(D) Domestic violence is a pattern of abuse, while marital disharmony is a state of persistent conflict and estrangement.

262. According to the text, what is the ultimate aim of effective conflict resolution in a family context?
(A) To ensure that one partner's viewpoint prevails over the other's
(B) To address underlying issues and foster constructive ways to manage disputes
(C) To completely eliminate all forms of disagreement between partners
(D) To seek formal legal intervention as the primary solution

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263. The passage suggests that conflict within a marital relationship should be viewed as:
(A) an unnatural and entirely negative phenomenon.
(B) a problem that can only be solved through formal therapy.
(C) a process that can escalate if not managed constructively.
(D) a sign that the relationship is inevitably failing.

264. Which of the following is NOT mentioned in the passage as a form of domestic violence?
(A) Physical abuse
(B) Economic abuse
(C) Emotional abuse
(D) Social isolation

265. What can be inferred from the passage about the relationship between marital disharmony and domestic violence?
(A) Persistent marital disharmony can be a risk

(A) avoid all forms of conflict and crisis.
(B) maintain rigid roles and structures over time.
(C) adapt to changes while preserving cohesion.
(D) prioritize individual autonomy over family intimacy.

254. A systemic perspective on family dynamics, as mentioned in the text, would most likely focus on:
(A) the individual psychological state of each family member in isolation.
(B) the influence of economic conditions as the sole determinant of family health.
(C) the historical origins of cultural norms affecting the family.
(D) the interconnectedness of members and how one person's actions impact the group.

255. Which concept is presented in the passage as a critical dynamic involving a balance between two opposing needs?
(A) The negotiation between roles and responsibilities
(B) The relationship between internal factors and external pressures
(C) The interplay between intimacy and autonomy
(D) The dynamic between normative and non-normative crises

Direction : Please read the following source carefully.

Family welfare is a comprehensive concept that extends beyond mere economic support, encompassing a variety of approaches and programmes designed to enhance the overall quality of life for family units. The approaches to family welfare can be broadly categorized as preventive, developmental, and rehabilitative. Preventive approaches aim to forestall problems like marital discord or health issues before they arise, often through education and awareness campaigns. Developmental approaches focus on strengthening the family's capacity for self-reliance and growth, contributing to its role in national development by fostering stable, productive citizens. Rehabilitative programmes, on the other hand, are implemented when families face crises, providing support to restore functioning. A significant challenge in implementing these programmes is ensuring they are accessible, culturally sensitive, and effectively integrated with other social services. Furthermore, achieving sustainable family welfare is intrinsically linked to national development; a nation composed of healthy, educated, and stable families is better positioned for social and economic progress. The role of the family in national development is thus reciprocal: while the state provides welfare programmes, the family unit acts as the primary agent of socialization and human capital formation, nurturing the next generation of citizens and workers.

Based on the above source, attempt the following five questions.

256. Which of the following best describes the primary goal of developmental approaches to family welfare as per the passage?
(A) To provide immediate relief during a family crisis
(B) To build the family's capacity for growth and self-reliance
(C) To prevent family problems from occurring in the first place
(D) To restore family functioning after a breakdown

257. According to the text, what is a significant challenge in the implementation of family welfare programmes?
(A) The lack of family participation in developmental activities
(B) The overemphasis on economic support over social well-being
(C) The conflict between state-led initiatives and family autonomy
(D) The difficulty in ensuring programmes are accessible and culturally appropriate

258. The passage suggests a reciprocal relationship between family welfare and national development. What does this imply?
(A) The state supports families, and in turn, strong families contribute to the nation's progress.
(B) National development is solely dependent on the success of family welfare programmes.
(C) Family welfare can only be achieved after a nation has fully developed.
(D) Families and the state compete for the same

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(A) The ability to give good advice.
(B) The ability to listen with empathy.
(C) The ability to make decisions for the client.
(D) The ability to administer medication.

225. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Health is not merely the absence of disease or infirmity.
Reason (R) : The WHO definition of health emphasizes a holistic state of complete physical, mental, and social well-being.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

226. In the context of research, what is a sample?
(A) A subset of the population selected to represent the whole.
(B) The complete set of items that are of interest in a study.
(C) The theoretical framework of the research.
(D) The final conclusion drawn from the data.

227. A marriage where the partners live with the wife's family is called:
(A) Patrilocal
(B) Neolocal
(C) Matrilocal
(D) Avunculocal

228. Which of the following is a major challenge for family welfare programmes in India?
(A) Too few people in need of services.
(B) Over-funding and surplus resources.
(C) A lack of clear objectives.
(D) Cultural and social barriers to accepting services.

229. A conflict resolution strategy where one person neglects their own concerns to satisfy the concerns of the other person is known as:
(A) Competing
(B) Collaborating
(C) Accommodating
(D) Compromising

230. A permissive parenting style is characterized by:
(A) Low warmth, high control.
(B) High warmth, low control.
(C) High warmth, high control.
(D) Low warmth, low control.

231. Which of the following is the best example of family disorganization?
(A) A family deciding to move to a new city for a better job.
(B) A family planning a joint holiday.
(C) A family where parents and children are discussing household chores.
(D) A family where roles are unclear and members feel disconnected.

232. 'Differentiation of self', a key concept in Bowenian family therapy, refers to an individual's ability to:
(A) Maintain sense of self while remaining emotionally connected.
(B) Separate from their family of origin completely.
(C) Blend their identity with that of their partner.
(D) Diagnose psychological problems in other family members.

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233. Given below are two statements:
Statement I : Gender roles are biologically determined and are the same in every culture.
Statement II : Gender roles are socially constructed norms of behavior for men and women that vary across cultures and time.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is false, but Statement II is true.
(D) Statement I is true, but Statement II is false.

234. The feeling of emotional and physical exhaustion from the demands of caring for another person is known as:
(A) Caregiver burnout
(B) Caregiver apathy
(C) Caregiver satisfaction
(D) Caregiver engagement

235. The transition from work to retirement is a major life event that primarily affects well-being in which life stage?
(A) Infancy

factor or precursor to violence.
(B) They are mutually exclusive and cannot coexist.
(C) Marital disharmony is always a direct result of domestic violence.
(D) Resolving domestic violence automatically resolves all marital disharmony.

Direction : Please read the following source carefully.

Parent education is a proactive and empowering intervention designed to enhance parenting skills and promote child well-being. It operates on the premise that parenting is a learned behavior that can be improved with knowledge and support. A central tenet of modern parent education is the concept of positive parenting, which advocates for a child-rearing approach based on mutual respect, encouragement, and guidance rather than punitive control. Positive parenting techniques focus on setting clear and consistent limits, understanding a child's developmental stage, and using non-violent discipline methods that teach self-control and responsibility. The goals extend beyond managing misbehavior to fostering a child's self-esteem, empathy, and cognitive development. The scope of such educational efforts is not limited to individual families but also includes community education. Community education initiatives recognize that parenting practices are influenced by the wider social environment. By engaging schools, healthcare providers, and community leaders, these programs aim to create a supportive ecosystem for families, normalizing help-seeking behavior and disseminating consistent, evidence-based parenting advice. This collective approach reinforces the skills learned by individual parents and helps build a community-wide culture that values and supports effective, positive child-rearing.

Based on the above source, attempt the following five questions.

266. What is the fundamental premise of parent education as described in the passage?
(A) Parenting is an innate instinct that cannot be taught.
(B) Parenting is a learned behavior that can be refined through education.
(C) Only parents with problem children require education.
(D) Parent education focuses exclusively on punitive discipline.

267. Which of the following is a key characteristic of positive parenting mentioned in the text?
(A) An emphasis on punitive control to ensure obedience
(B) A focus on guidance and non-violent discipline
(C) Allowing children complete freedom without any limits
(D) Prioritizing the parent's authority over mutual respect

268. The concept of community education in parenting, as presented in the passage, suggests that:
(A) creating a supportive social ecosystem can reinforce positive parenting.
(B) parenting is a private matter that should not involve the community.
(C) only community leaders are responsible for educating parents.
(D) community education is less effective than individual family counseling.

269. According to the passage, the goals of positive parenting extend beyond behavior management to include:
(A) ensuring a child's academic success above all else.
(B) teaching children to conform to social norms without question.
(C) fostering a child's self-esteem and empathy.
(D) accelerating a child's developmental stages.

270. What is the main purpose of engaging schools and community leaders in parent education?
(A) To report parents who are not using positive parenting techniques
(B) To transfer the full responsibility of child-rearing to the community
(C) To provide financial aid to families attending education programs
(D) To create a community-wide culture that supports effective parenting

Direction : Please read the following source carefully.

Family disorganization refers to the breakdown of the family as a social unit, characterized by

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246. Which of the following is NOT a type of marriage?
(A) Monogamy
(B) Neolocal
(C) Polygamy
(D) Levirate

247. The term 'marital disharmony' is best characterized by:
(A) Healthy disagreements that lead to growth.
(B) The initial adjustment period after marriage.
(C) A formal legal separation.
(D) A persistent lack of emotional connection and conflict.

248. The most crucial aspect of 'parent education' is that it is:
(A) Designed to empower parents with knowledge and skills.
(B) Mandatory for all parents.
(C) A replacement for a parent's own judgment.
(D) Focused only on physical care of the child.

249. Which of the following pairs is INCORRECTLY matched?
(A) Bowenian Therapy - Differentiation of Self
(B) Structural Therapy - Family Boundaries and Hierarchy
(C) Narrative Therapy - Identifying the 'Identified Patient'
(D) Strategic Therapy - Paradoxical Interventions

250. Given below are two statements:
Statement I : The rights of women are special rights that are superior to the rights of men.
Statement II : Promotion of women's rights aims to correct disadvantages for equality.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is false, but Statement II is true.
(D) Statement I is true, but Statement II is true.

Direction : Please read the following source carefully.

The dynamics of marriage and family relationships are complex and continuously evolving systems rather than static entities. These dynamics are shaped by a confluence of internal factors, such as communication patterns, personality traits of members, and the distribution of power and authority, as well as external societal pressures like economic conditions and cultural norms. A fundamental aspect of these relationships is the negotiation of roles and responsibilities, which can shift significantly over the family life cycle. Effective communication serves as the bedrock of healthy family functioning, enabling members to express needs, resolve conflicts, and provide mutual support. Conversely, dysfunctional communication can lead to misunderstanding and emotional distance. The interplay between intimacy and autonomy is another critical dynamic, where family members must balance the need for closeness with the necessity for individual space and growth. The resilience of a family unit is often tested by normative life transitions, such as the birth of a child or children leaving home, and non-normative crises. The ability to adapt to these changes while maintaining cohesion and support is a key indicator of relational health. Therefore, understanding family dynamics requires a systemic perspective that views the family as an interconnected whole, where the behaviour of one member invariably affects all others.

Based on the above source, attempt the following five questions.

251. According to the passage, which of the following is described as the "bedrock of healthy family functioning"?
(A) The equitable distribution of power and authority
(B) Effective communication among family members
(C) The successful negotiation of roles and responsibilities
(D) The balance between intimacy and autonomy

252. What does the passage suggest about the nature of family relationships?
(A) They are influenced by both internal factors and external conditions.
(B) They are primarily determined by external societal pressures.
(C) They remain stable and unchanging throughout the life cycle.
(D) They are most challenged by the personality traits of individual members.

253. The passage implies that a family's resilience is best demonstrated by its ability to:

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for child development, as a family crisis can profoundly impact a child's emotional security and growth. By stabilizing the family environment and fostering healthier dynamics, family therapy not only helps the family navigate the immediate crisis but also provides a foundation for the long-term well-being and positive development of its children.

Based on the above source, attempt the following five questions.

276. What defines a "family in crisis" according to the passage?
(A) The family's inability to cope with a stressor using its usual methods
(B) The occurrence of any stressful event in the family
(C) The presence of a child with developmental issues
(D) The decision to seek professional family therapy

277. How does family therapy differ from individual therapy, as described in the text?
(A) It is only used for crises caused by natural disasters.
(B) It focuses exclusively on the children in the family.
(C) It is less effective for resolving long-term issues.
(D) It treats the family as a system and the entire unit as the client.

278. The passage suggests that family therapy is a vital initiative for child development because:
(A) it directly provides academic tutoring to children.
(B) a family crisis can negatively affect a child's emotional security.
(C) it removes the child from the family during a crisis.
(D) it focuses on changing the child's behavior in isolation.

279. Which of the following is a primary goal of family therapy as mentioned in the source?
(A) To assign blame for the crisis to a single family member
(B) To encourage family members to act more independently of one another
(C) To alter dysfunctional patterns of interaction among family members
(D) To teach the family to avoid all future life cycle transitions

280. What can be inferred about the role of the therapist in family therapy?
(A) The therapist acts as a judge to decide who is right or wrong.
(B) The therapist provides the family with all the answers to their problems.
(C) The therapist focuses only on the family's weaknesses and ignores its strengths.
(D) The therapist facilitates the process of identifying patterns and developing new coping skills.

Direction : Please read the following source carefully.

The discourse on family studies is incomplete without a strong foundation in human rights, which provides a universal framework for dignity and equality. Within this framework, the rights of women and the rights of children are of particular importance, as these groups have historically been vulnerable to marginalization within family structures. The status of women in a family and the broader society is a critical indicator of social progress. This status is often constrained by deeply entrenched gender roles, which are socially constructed expectations and behaviors assigned to individuals based on their sex. These roles can limit women's access to education, economic opportunities, and decision-making power, thereby perpetuating inequality. Upholding the rights of women involves challenging these restrictive gender roles and ensuring their equal participation in all spheres of life. Similarly, recognizing the rights of children means viewing them not as property of their parents but as individuals with the right to protection, provision, and participation. This includes the right to be safe from harm, to have access to healthcare and education, and to have their opinions heard in matters affecting them. A family that respects the human rights of all its members, irrespective of gender or age, fosters an environment of equity and justice, which is essential for healthy development.

Based on the above source, attempt the following five questions.

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The UN Convention on the Rights of the Child establishes fundamental protections necessary for healthy development and dignity. These rights include survival, protection from harm, and the freedom to express views. However, administrative aspects of daily life, such as screen time limits, are considered parental responsibilities rather than universal human rights. The focus remains on ensuring that children are safe, healthy, and included in decisions that affect them.

9. (C) Building a warm relationship and using non-violent discipline.
Positive parenting focuses on nurturing a strong emotional bond between caregivers and children based on mutual respect. This approach prioritizes non-violent discipline methods that teach self-regulation and problem-solving rather than relying on fear or punishment. By setting clear boundaries within a supportive framework, parents help children develop resilience and social competence. The emphasis remains on long-term development and the well-being of the child through consistent, warm interaction.

10. (A) P-3, Q-1, R-4, S-2.
Different family therapy models utilize specific concepts to address interpersonal challenges. Structural therapy focuses on the hierarchy and boundaries within the family system. Bowenian therapy emphasizes the differentiation of self from the family of origin to improve functioning. Strategic therapy uses direct interventions to solve specific presenting problems. Narrative therapy helps individuals re-author their life stories to overcome problem-saturated perspectives. Each approach offers a unique lens for psychological intervention.

11. (D) To help them manage stress and improve their well-being.
Caregivers often face significant physical and emotional demands that can lead to burnout and isolation. Guidance and counseling services are designed to provide these individuals with the tools needed to navigate their complex roles. The primary aim is to facilitate stress management and enhance the caregiver's personal well-being. By supporting the caregiver, these services indirectly ensure that the quality of care provided to the recipient remains high.

12. (B) Statistic.
In the field of statistics, it is essential to distinguish between characteristics of a whole population and those of a smaller group. A statistic is a numerical value calculated from a sample, such as a sample mean or proportion. This value serves to summarize or describe the data collected from that specific subset. In contrast, a parameter refers to a characteristic of the entire population, which is often estimated using sample statistics.

13. (C) The Protection of Women from Domestic Violence Act, 2005.
The Protection of Women from Domestic Violence Act, passed in 2005, represents a landmark piece of legislation in India. It provides a comprehensive legal framework to address various forms of abuse within domestic relationships, including physical, sexual, verbal, and economic violence. The act grants victims the right to protection orders, residence orders, and monetary relief. It acknowledges that domestic violence is a human rights violation occurring within the private sphere.

14. (D) A persistent state of conflict and maladjustment in a marriage.
Marital disharmony describes a situation where a couple experiences chronic discord and a failure to adjust to each other's needs or expectations. This state goes beyond temporary or minor disagreements, representing a deep-seated lack of cooperation and emotional connection. Persistent conflict can negatively impact the mental health of both spouses and create a stressful environment for children. Resolving such disharmony often requires professional intervention or significant behavioral changes.

15. (A) 1 and 3 only.
Human rights are defined as inherent entitlements belonging to every person simply by virtue of being human. They are characterized as universal, inalienable, and indivisible, meaning all categories of rights hold equal importance. While the Universal Declaration of Human Rights provides a standard for all nations, it is a declaration rather than a legally binding treaty itself. Furthermore, human rights principles generally assert that these rights cannot be arbitrarily taken away by the state.

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members who benefit from counseling
(C) Because caregivers often experience significant strain that can lead to burnout
(D) Because caregiving is a role exclusive to the elderly population

288. The passage implies that supporting a caregiver through counseling has a broader effect. What is this effect?
(A) It decreases the financial cost of care.
(B) It also benefits the person receiving care by improving the caregiving environment.
(C) It makes the caregiver completely independent of any social service systems.
(D) It resolves all developmental challenges for every family member.

289. As described in the passage, guidance for an adolescent would most likely focus on which of the following?
(A) Managing retirement and leisure time
(B) Developing basic social skills for the first time
(C) Coping with marital issues and work-life balance
(D) Navigating identity formation and career choices

290. Which of the following is mentioned as a specific goal of counseling for caregivers?
(A) To provide emotional support and stress-management techniques
(B) To help them find alternative care providers
(C) To teach them advanced medical procedures
(D) To diagnose the medical condition of the person they care for

Direction : Please read the following source carefully.

The concepts of health and well-being are fundamental to family studies, as they are dynamic states that evolve across the life span. Health is not merely the absence of disease but a holistic state of physical, mental, and social well-being. This multifaceted nature means that an individual's health is profoundly influenced by their family environment, relationships, and socio-economic status. Across life span development, health needs and challenges change significantly. In infancy and childhood, the focus is on nutrition, immunization, and cognitive stimulation. During adolescence, mental health, risk-taking behaviors, and reproductive health become prominent concerns. In adulthood and old age, managing chronic conditions, maintaining functional independence, and addressing social isolation are key aspects of health and well-being. Family plays a crucial role at every stage, acting as the primary source of care, a key influence on health behaviors (like diet and exercise), and a buffer against stress. A supportive family can significantly enhance an individual's resilience and recovery from illness, while a dysfunctional family environment can be a major source of stress and a risk factor for poor health outcomes. Thus, promoting health and well-being requires a life-span perspective that recognizes the continuous interplay between individual development and family dynamics.

Based on the above source, attempt the following five questions.

291. How does the passage define "health"?
(A) As the complete absence of any physical disease
(B) As a state of financial and social stability
(C) As a holistic state of physical, mental, and social well-being
(D) As the ability to manage chronic conditions in old age

292. According to the text, what are prominent health concerns during adolescence?
(A) Mental health and risk-taking behaviors
(B) Nutrition and immunization
(C) Management of chronic conditions and functional independence
(D) Cognitive stimulation and motor skills development

293. What role does the family play in an individual's health, as described in the passage?
(A) It has a minimal impact compared to genetic factors.
(B) Its influence is limited to the childhood years only.
(C) It is solely responsible for providing medical treatment.
(D) It is a key influence on health behaviors and a buffer against stress.

294. The passage suggests that a dysfunctional family environment can be a:
(A) protective factor against mental illness.
(B) major source of stress and a risk factor for

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poor health.
(C) guarantee of high functional independence in old age.
(D) positive influence on an individual's diet and exercise.

295. What does a "life-span perspective" on health and well-being, as mentioned in the source, primarily recognize?
(A) That health is determined entirely at birth
(B) That health concerns remain the same from infancy to old age
(C) The continuous interaction between individual development and family dynamics
(D) The superiority of mental health over physical health

Direction : Please read the following source carefully.

Empirical inquiry in family studies relies on systematic research methods to generate valid and reliable knowledge. The research process typically begins with the formulation of a research question, followed by data collection. The methods of data collection can be diverse, including surveys, interviews, observations, and case studies, each with its own strengths and limitations. Once collected, raw data must be organized for analysis. This involves a process of classification, where data are sorted into meaningful categories based on their properties. Following classification, coding is employed, which involves assigning numerical or symbolic codes to the data to facilitate quantitative or qualitative analysis. This coded data is then organized through tabulation, where it is arranged in tables or matrices to reveal patterns and relationships. The final stage involves statistical analysis. Descriptive statistics, such as mean, median, and mode, are used to summarize and describe the basic features of the data. In contrast, inferential statistics are used to make generalizations or inferences about a larger population based on the sample data. For example, a researcher might use descriptive statistics to report the average number of conflicts in a sample of families and then use inferential statistics to test whether this average is significantly different between two types of family structures.

Based on the above source, attempt the following five questions.

296. According to the passage, what is the purpose of using descriptive statistics in research?
(A) To make generalizations about a larger population
(B) To test hypotheses about the relationship between variables
(C) To assign numerical codes to qualitative data
(D) To summarize and describe the basic features of the collected data

297. In the research process described, what step immediately follows data collection?
(A) Classification and coding
(B) Tabulation
(C) Inferential statistics
(D) Formulation of the research question

298. The passage distinguishes between descriptive and inferential statistics by stating that inferential statistics are used to:
(A) calculate the mean, median, and mode of the sample.
(B) draw conclusions about a population from a sample.
(C) arrange data into tables and matrices for clarity.
(D) sort raw data into meaningful categories.

299. What is the function of "coding" in the research process described in the text?
(A) To collect raw data from participants
(B) To assign numerical or symbolic values to data for analysis
(C) To protect the identity of the research subjects
(D) To present the final research findings in a report

300. A researcher creates a table showing the frequency of different parenting styles within their study sample. This process is an example of:
(A) tabulation.
(B) inferential statistics.
(C) data collection.
(D) formulating a research question.

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ANSWERS

1. (B) A family unit comprising parents and their dependent children.
A nuclear family serves as the most basic unit of social organization within many societies. It typically consists of a married couple and their offspring living together in a single household. This structure focuses on the immediate parent-child bond, distinguishing it from broader kinship networks that include extended relatives. It often provides the primary environment for early socialization and emotional support for children.

2. (A) Family dynamics are static and do not change over the family life cycle.
Family dynamics are inherently fluid and continuously evolve as members age and transitions occur. Throughout the life cycle, families encounter various stages, such as marriage, childbearing, and retirement, each requiring adjustments in roles and interaction patterns. Communication styles and power structures must adapt to these shifting circumstances. Claiming that these relationships remain unchanged ignores the developmental reality of human growth and organizational adaptation.

3. (A) Both A and R are true and R is the correct explanation of A.
Parent education programs serve a vital role by providing caregivers with evidence-based strategies for nurturing child development. These initiatives enhance understanding of developmental milestones and effective discipline methods. By equipping parents with necessary skills, these programs directly contribute to healthier family environments. Consequently, the likelihood of neglect or abuse decreases, justifying the claim that parent education is essential for fostering a child's well-being.

4. (D) An external crisis.
External crises originate from events outside the family system that nonetheless impact its internal stability. Sudden unemployment or financial distress caused by economic shifts are classic examples of such stressors. These situations are distinct from developmental transitions or internal relationship conflicts. Families must mobilize resources to adapt to these unanticipated environmental changes. Resilience in these cases often depends on access to external support and effective coping mechanisms.

5. (C) To assign symbols to responses to facilitate statistical analysis.
Coding acts as a transformative step in research by converting qualitative or raw data into a structured format suitable for analysis. This process involves assigning specific numbers or symbols to different categories of responses. By doing so, researchers can efficiently organize vast amounts of information and apply statistical tests. This systematic approach ensures that data is manageable and that patterns within the responses become identifiable.

6. (B) 2 and 4 only.
Family welfare programs in modern contexts move beyond simple population control to embrace a holistic view of well-being. They integrate various sectors, including health, nutrition, and education, to address the diverse needs of families. The ultimate objective is to enhance the overall quality of life for all members. These initiatives are often implemented through collaborative efforts between different levels of government and community organizations.

7. (D) Role overload and financial strain.
Single-parent families often encounter intense pressure due to the requirement for one adult to manage all household and parenting responsibilities. This situation leads to significant role overload, as the individual must serve as the primary breadwinner, caregiver, and domestic manager simultaneously. Financial strain is a frequent consequence of relying on a single income. These combined factors create a challenging environment for maintaining family stability and personal well-being.

8. (A) Right to unlimited screen time and entertainment.

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281. According to the passage, what is the primary function of the human rights framework in family studies?
(A) To provide a universal standard for ensuring dignity and equality within families
(B) To prescribe a single, ideal family structure for all cultures
(C) To focus exclusively on the economic functions of the family
(D) To document the historical evolution of different family types

282. The passage defines "gender roles" as:
(A) biologically determined behaviors inherent to males and females.
(B) socially constructed expectations and behaviors assigned based on sex.
(C) universally accepted and unchanging family responsibilities.
(D) personal preferences for certain tasks and activities.

283. How does the text suggest that restrictive gender roles affect the status of women?
(A) By enhancing their decision-making power within the family
(B) By limiting their access to education and perpetuating inequality
(C) By guaranteeing them equal access to economic opportunities
(D) By protecting them from all forms of social vulnerability

284. What shift in perspective is advocated for by recognizing the "rights of children"?
(A) Seeing children as individuals with rights, not as parental property
(B) Viewing children as miniature adults with full autonomy
(C) Prioritizing children's desires over their need for protection
(D) Focusing solely on children's duties and responsibilities to the family

285. What is the likely outcome of a family environment that respects the human rights of all its members, as implied by the passage?
(A) An increase in conflict over individual rights
(B) A breakdown of traditional family values
(C) The fostering of equity, justice, and healthy development
(D) The complete elimination of parental authority

Direction : Please read the following source carefully.

Guidance and counseling are supportive processes integral to promoting well-being throughout an individual's life. These services are not confined to resolving acute problems but are crucial across the life span, addressing developmental needs and challenges from childhood through old age. In early years, guidance may focus on educational and social skills, while in adolescence, it often tackles identity formation and career choices. In adulthood, counseling can help with marital issues, work-life balance, and mid-life transitions. A particularly vital, yet often overlooked, area is counseling for caregivers. Caregivers, whether they are looking after children, elderly parents, or a family member with a disability, frequently experience immense physical, emotional, and financial strain. This can lead to burnout, compromising their own health and their ability to provide effective care. Guidance and counseling for caregivers aim to provide emotional support, teach stress-management techniques, help in navigating healthcare and social service systems, and foster resilience. By supporting the caregiver, these services indirectly support the entire family unit, ensuring that the person receiving care also benefits from a more stable and healthy caregiving environment. Therefore, the scope of guidance and counseling must be broad, acknowledging the interconnected needs of individuals and their support systems at every stage of life.

Based on the above source, attempt the following five questions.

286. What does the passage suggest about the scope of guidance and counseling?
(A) It is primarily for individuals with severe mental disorders.
(B) It is most effective only during adolescence.
(C) It is limited to providing career advice to young adults.
(D) It is a continuous process relevant across the entire life span.

287. According to the text, why is counseling for caregivers considered particularly vital?
(A) Because caregivers are more likely to cause family conflicts
(B) Because caregivers are the only family

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16. (B) Acknowledging conflict and agreeing to communicate.
Conflict resolution within a family begins with the recognition that a problem exists. Acknowledging the conflict is a necessary prerequisite for any productive dialogue or change. Once the issue is out in the open, members must agree to engage in honest and respectful communication. This initial step establishes a foundation for understanding different perspectives and seeking a mutually acceptable solution. Ignoring the problem usually leads to increased resentment and long-term instability.

17. (B) Descriptive statistics.
Descriptive statistics involve methods used to organize, summarize, and present data in a clear and meaningful way. When a researcher calculates an average age, they are providing a summary measure that describes a specific characteristic of the group under study. This type of analysis does not seek to make predictions or test hypotheses about a larger population. Instead, it focuses on accurately representing the features of the collected data set for interpretation.

18. (A) Both Statement I and Statement II are true.
The health and well-being of family members are deeply interconnected within a systemic framework. Because a family operates as a unit, a major illness affecting one individual inevitably ripples through the entire system. This impact is often felt emotionally, through increased stress and worry, and financially, through medical costs or loss of income. Recognizing this interdependence is crucial for providing holistic support that addresses the needs of the whole family group.

19. (C) The remedial or clinical approach.
The remedial approach to family welfare focuses on providing interventions for families already experiencing specific difficulties or dysfunctions. This clinical perspective aims to treat existing problems, such as marital conflict, child behavioral issues, or mental health struggles. The goal is to restore the family to a healthy state of functioning through therapy or targeted support services. This reactive strategy is essential for addressing acute needs that cannot be met through prevention alone.

20. (A) 2, 3, 1, 4.
The family life cycle typically begins with the formation of a new unit through marriage or partnership. As the family matures, it moves through stages such as raising children and navigating the complexities of the adolescent years. The next major transition involves the launching of children as they leave home for work or education. Finally, the cycle concludes with the family in later life, focusing on retirement and adapting to aging processes.

21. (C) The death of a spouse, divorce, or desertion.
Family disorganization refers to the breakdown of the established structure and functional roles within a household. This process can be triggered by major life events that fundamentally alter the membership or the ties between members. Significant examples include the loss of a partner through death, the legal end of a marriage, or the abandonment of family responsibilities. Such events disrupt the usual patterns of interaction and require a significant reorganization of the system.

22. (B) Create a supportive environment and social network for parents.
Community education for parenting aims to strengthen families by building collective knowledge and fostering social ties. These programs provide a platform for parents to share experiences and learn from one another within their local context. By creating a supportive network, community initiatives reduce parental isolation and increase access to valuable resources. The goal is to empower parents within their own roles rather than replacing them or enforcing a rigid, singular parenting style.

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23. (D) The family's usual coping mechanisms are ineffective.
A family crisis is defined by a state of acute disruption where the family's standard methods of solving problems are no longer sufficient. This situation creates a sense of disequilibrium and intense stress as members struggle to adapt to overwhelming challenges. Whether the crisis is triggered by sudden events or long-term strain, the defining feature is the breakdown of normal functioning. Successful resolution requires the development of new strategies and often involves seeking outside help.

24. (A) Both A and R are true and R is the correct explanation of A.
The status of women acts as a powerful barometer for the overall progress of any society. When women are empowered, they typically invest more in the health, nutrition, and education of their families. This investment leads to positive outcomes for the next generation and increases the economic productivity of the community. Therefore, promoting the rights and status of women is not just a matter of justice, but a critical driver of national development.

25. (C) Classification.
Classification is a fundamental process in data analysis that involves organizing collected information into meaningful groups. This is done based on shared characteristics or attributes identified within the data set. By categorizing responses, researchers can simplify complex information and prepare it for further analysis, such as tabulation. This step is essential for identifying patterns and relationships between variables, making it easier to draw valid conclusions from the research findings.

26. (A) Disagreement over choice of television channel.
The Protection of Women from Domestic Violence Act defines abuse through specific categories including physical, sexual, verbal, and economic harm. These categories involve actions intended to control, coerce, or injure a family member. Everyday minor disagreements, such as choosing entertainment, do not meet the legal threshold of domestic violence unless they involve abusive behavior. The focus of the law is on addressing patterns of power and control that threaten a woman's safety and dignity.

27. (D) Pre-marital counseling.
Pre-marital counseling is a specialized form of guidance intended to prepare couples for the complexities of married life. It provides a structured environment for partners to discuss important topics such as communication, finances, and future goals. By addressing potential areas of conflict before the marriage begins, the process helps couples develop effective problem-solving skills. This proactive approach aims to build a strong foundation for a stable and satisfying long-term relationship.

28. (C) 1, 2, 3, and 5 only.
A holistic perspective on health recognizes that well-being encompasses multiple interconnected dimensions across the entire lifespan. This includes physical health, mental and emotional stability, and the quality of social relationships. Furthermore, spiritual well-being is often acknowledged as a significant component of a person's overall sense of purpose and peace. While financial resources can influence access to care, they are typically categorized as an external factor rather than an intrinsic dimension of health.

29. (C) Socially and culturally constructed expectations of behavior.
Gender roles represent the specific behaviors, tasks, and attributes that a society considers appropriate for men and women. Unlike biological sex, which is determined by physical characteristics, gender roles are learned through socialization within a cultural context. These expectations can vary significantly between different societies and change over time. Understanding gender roles is crucial for analyzing how social structures influence the opportunities, responsibilities, and power dynamics available to individuals based on their identity.

30. (D) Strategic approach.
Strategic family therapy focuses on the specific sequences of behavior and communication patterns that maintain a family's problem. The therapist takes an active role in identifying the rules and power dynamics that govern interactions within the system. By using direct or paradoxical interventions, the therapist aims to disrupt dysfunctional patterns and initiate change. The emphasis is on solving the presenting problem efficiently through behavioral modification rather than exploring the deep-seated history of the family.

31. (C) JSY - Focuses on reducing maternal and neonatal mortality.
Janani Suraksha Yojana is a significant family welfare initiative in India designed to promote institutional deliveries. Its primary goal is to reduce maternal and neonatal mortality by providing financial incentives to pregnant women who give birth in healthcare facilities.

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This program targets vulnerable populations to ensure safe motherhood and child survival. By encouraging professional medical care during childbirth, the scheme addresses critical health outcomes and supports the overall well-being of the family unit.

32. (B) Summarizing and displaying data in systematic rows and columns.
Tabulation is the process of arranging classified data into a structured format using rows and columns. This systematic presentation allows for a clear overview of the information and facilitates easy comparison between different categories. It is a critical step in the data analysis process, as it bridges the gap between raw data collection and the final interpretation. Tables help researchers identify trends and relationships more effectively than looking at unorganized lists of responses.

33. (B) Using reflection and explaining why behavior was wrong.
Positive parenting techniques emphasize teaching and guidance rather than punishment or control. By using reflection, a parent encourages a child to think about their actions and understand the consequences for themselves and others. Explaining the reasoning behind rules helps the child internalize values and develop a sense of right and wrong. This approach builds a foundation of trust and respect, fostering the child's emotional intelligence and long-term self-discipline.

34. (A) Reconstituted or blended family.
A reconstituted or blended family is formed when at least one parent has children from a previous marriage or relationship and enters a new partnership. This structure brings together individuals who may have different histories and existing bonds. Navigating these new dynamics requires significant adjustment from both adults and children. These families are becoming increasingly common and offer a unique set of challenges and opportunities for developing supportive and resilient kinship networks.

35. (B) P-3, Q-2, R-1, S-4.
International human rights are protected by various landmark documents and conventions. The Universal Declaration of Human Rights establishes general principles like the right to life and security. The Convention on the Rights of the Child provides specific protections for children, including their right to participate in decisions and protection from economic exploitation. Additionally, the Convention on the Elimination of All Forms of Discrimination Against Women focuses specifically on ensuring gender equality and preventing discrimination.

36. (D) Competing.
A competing style of conflict resolution is characterized by a high degree of assertiveness and a low level of cooperation. In this approach, an individual pursues their own goals and interests without considering the needs or feelings of the other party. This often leads to a win-lose outcome, where one person's victory comes at the expense of the other. While sometimes necessary in emergencies, its chronic use can damage relationships and create lasting resentment.

37. (C) Reaching remote and marginalized populations effectively.
Reaching remote and marginalized groups remains a primary obstacle for family welfare programs in achieving their full potential. Geographic isolation, coupled with social and economic barriers, often prevents these populations from accessing essential services. Furthermore, lack of awareness and cultural differences can lead to a low uptake of government initiatives. Ensuring equitable distribution of resources requires targeted outreach strategies and a deep understanding of the specific needs and contexts of these underserved communities.

38. (C) Statement I is true, but Statement II is false.
Inferential statistics provide the tools necessary for researchers to make generalizations about a whole population based on findings from a sample. This allows for predictions and the assessment of relationships between variables. In contrast, descriptive statistics are used solely to summarize and organize the characteristics of the data already collected. They do not test hypotheses or make claims beyond the specific group under study. Understanding this distinction is vital for accurate data analysis.

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39. (D) Variable and dependent on parenting quality and support.

The impact of growing up in a single-parent family is not uniform and depends on various influencing factors. While these children may face specific challenges, their emotional and psychological outcomes are largely determined by the quality of parenting they receive. Access to social support networks and financial stability also play critical roles in their development. With a nurturing environment and adequate resources, children in single-parent households can achieve the same success as their peers.

40. (A) Integrated Child Development Services (ICDS).
Integrated Child Development Services is one of India's most comprehensive social welfare programs targeting children and their mothers. It offers a coordinated package of services including supplementary nutrition, immunization, health check-ups, and pre-school education. By addressing the health and educational needs of children under six, the program aims to lay a strong foundation for their future development. It represents a multi-sectoral approach to improving the well-being of the most vulnerable sections of society.

41. (A) 1 and 4 only.
Marital dynamics are characterized by the ongoing interactions and adjustments between partners. Effective communication serves as the fundamental cornerstone for building trust and resolving conflicts in a stable marriage. Furthermore, having shared values and goals provides a sense of direction and increases family cohesion over time. Satisfaction in a marriage is rarely constant and can fluctuate in response to life events, while power dynamics often evolve rather than remaining perfectly balanced.

42. (A) It acts as the basic unit for socializing responsible citizens.
The family serves as the fundamental building block of society and plays a critical role in national development. It is the primary environment where children learn the values, behaviors, and skills necessary to become productive and responsible citizens. By nurturing the next generation, families contribute to the formation of human capital, which is essential for economic growth. The stability and health of families directly influence the overall strength and progress of the nation.

43. (D) Having a joint bank account with a spouse.
Economic abuse is a form of domestic violence that involves controlling a person's ability to acquire, use, or maintain financial resources. This can include preventing a partner from working or withholding money for basic needs. In contrast, having a joint bank account is a common practice in many marriages and does not inherently constitute abuse. Such shared financial arrangements are usually based on mutual agreement and cooperation rather than an attempt to exert power or control.

44. (A) Both A and R are true and R is the correct explanation of A.
The UN Convention on the Rights of the Child is considered a landmark treaty because it established a comprehensive global standard for children's rights. It was the first legally binding instrument to integrate the full spectrum of human rights—including civil, political, economic, social, and cultural rights—specifically for children. By recognizing children as individuals with their own rights, the CRC has fundamentally changed how governments and societies approach child protection and development worldwide.

45. (C) Independent variable.
In experimental research, an independent variable is the factor that is manipulated or changed to observe its effect on another variable. It is presumed to be the cause of any changes seen in the outcome. Researchers control the independent variable to test their hypotheses about causal relationships. The variable that changes in response is known as the dependent variable. Understanding these roles is essential for designing valid experiments and interpreting the results correctly.

46. (B) To raise awareness and promote supportive social norms.
Community education on family issues aims to improve the well-being of families by increasing public knowledge and fostering positive social attitudes. These initiatives provide information on topics like parenting, health, and conflict resolution to the broader

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community. By promoting supportive norms, these programs create an environment where families feel empowered to seek help and use available resources. The goal is to strengthen the community's capacity to support healthy family functioning for everyone.

47. (A) The physical, emotional, and financial stress experienced by a caregiver.
Caregiver burden is a multidimensional concept that describes the negative impacts of providing care for another person. This burden includes the physical exhaustion, emotional distress, and financial costs associated with the caregiving role. Caregivers may experience chronic stress, leading to health problems and a reduced quality of life. Understanding and addressing this burden through guidance and counseling is essential for supporting caregivers and ensuring they can continue to provide high-quality care to their loved ones.

48. (A) 2, 3, 1, 4.
Global human rights milestones have been adopted in a specific chronological order over the past several decades. The Universal Declaration of Human Rights was the first, established in 1948. This was followed by the Convention on the Elimination of All Forms of Discrimination Against Women in 1979. The Convention on the Rights of the Child was then adopted in 1989. More recently, India passed the Protection of Women from Domestic Violence Act in 2005.

49. (B) Focuses on the family system and its patterns of interaction.
Family therapy is a specialized branch of psychotherapy that views individuals within the context of their primary relationships. Rather than focusing solely on an individual's internal psychology, it examines the patterns of communication and interaction within the entire family system. The goal is to identify and change dysfunctional dynamics that contribute to conflict or distress. By involving multiple family members in the process, the therapy aims to foster understanding and create lasting systemic change.

50. (A) It aims to empower families to become self-reliant through education.
The developmental approach to family welfare focuses on building the internal strengths and capacities of families. This proactive strategy emphasizes education and skill-building to help families become self-reliant and effectively manage their own needs. By providing tools for healthy parenting, economic stability, and effective communication, the approach aims to prevent future problems. This empowerment-based model promotes long-term resilience and well-being rather than just providing temporary relief or treating existing pathologies.

51. (C) 1, 2, and 3 only.
The status of women in a society is measured through several key indicators that reflect their health, education, and economic participation. Maternal mortality rates provide insight into the quality of healthcare and reproductive rights available to women. Literacy rates indicate the level of access to education and information. Furthermore, female labor force participation reflects the degree of economic empowerment and opportunity. These factors together offer a comprehensive view of the progress toward gender equality.

52. (D) A third party facilitating communication for a voluntary agreement.
Mediation is a voluntary process for conflict resolution where a neutral third party helps individuals in dispute communicate more effectively. The mediator does not make decisions for the couple but instead facilitates a discussion to help them reach their own mutually acceptable agreement. This approach empowers the parties to find creative solutions and can be particularly effective in marital conflicts. It aims to reduce hostility and preserve relationships by focusing on cooperation and future-oriented problem-solving.

53. (C) High rates of divorce and separation.
Family disorganization is a process where the traditional roles and structures of the family unit break down. In many modern societies, high rates of divorce and separation serve as major contributors to this phenomenon. These events fundamentally alter the membership of the household and disrupt established patterns of interaction and support. While families can reorganize into new forms, the initial breakdown

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newfound freedom, the shift in roles and the physical absence of children can be a significant emotional adjustment. This period often requires a refocusing on the marital relationship and personal interests.

69. (C) Right to be exempt from all household responsibilities.
The Convention on the Elimination of All Forms of Discrimination Against Women focuses on ensuring that women have equal rights with men in all areas of life. This includes rights related to education, healthcare, public participation, and family life. While it emphasizes the equal sharing of responsibilities within the home, it does not exempt women from all household duties. Instead, it promotes the idea that these tasks should be shared fairly between partners rather than being assigned based on gender.

70. (A) 4, 2, 1, 3.
A typical research process begins with the identification of a specific problem or question to be investigated. Once the problem is defined, the researcher formulates a testable hypothesis that predicts a potential outcome. The next stage involves the systematic collection of data using appropriate methods. Finally, the collected information is analyzed and interpreted to determine if it supports or refutes the hypothesis. This structured approach ensures that research is conducted in a logical and scientific manner.

71. (D) They can be formed through divorce, death, or a parent never having married.
Single-parent families are a diverse group and can be formed through various life events. While some are the result of divorce or the death of a spouse, others are formed when an individual chooses to raise a child on their own without marrying. These families have existed throughout history, although their visibility and social context have changed. Understanding the different pathways into single parenthood is essential for providing appropriate support and recognizing the unique strengths of these family units.

72. (A) Increase parents' understanding of child development and appropriate expectations.
Parent education programs aim to empower caregivers by providing them with evidence-based information about how children grow and learn. By increasing parents' understanding of developmental milestones, these initiatives help them set realistic and age-appropriate expectations for their children's behavior. This knowledge reduces frustration and promotes more effective and nurturing parenting practices. The focus is on supporting parents in their role by building their skills and confidence, rather than imposing a single, rigid way of raising children.

73. (C) "We both win".
The collaborating style of conflict resolution is a highly cooperative and assertive approach where both parties work together to find a solution that fully satisfies the concerns of everyone involved. This "win-win" strategy focuses on open communication, active listening, and a commitment to understanding different perspectives. By seeking creative alternatives, the parties can achieve an outcome that is better than what either could have reached alone. This approach strengthens relationships and builds trust over the long term.

74. (A) Managing the emotional stress of caring for a parent with dementia.
Geriatric caregivers often face intense and long-term demands that can lead to significant physical and emotional strain. Caring for a parent with a progressive condition like dementia is particularly challenging, as it involves managing cognitive decline and behavioral changes. Guidance and counseling for these caregivers focus on providing emotional support, stress management techniques, and practical strategies for navigation. These services are essential for preventing burnout and helping the caregiver maintain their own well-being while providing care.

75. (A) 1, 2, and 3 only.
The status of women in any society is assessed using indicators that reflect their overall well-being and participation in public life. Maternal mortality rates are a key health indicator, while female literacy rates show access to education. Furthermore, female labor force participation rates indicate economic empowerment and the degree of opportunity available to women. Factors like national holidays or average height are not considered meaningful indicators of

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environment that can harm the emotional and psychological development of children. Furthermore, the persistent tension and hostility in a disharmonious marriage increase the risk of mental and physical health problems for the partners themselves. In such cases, communication and cohesion are typically low, making healthy problem-solving extremely difficult.

62. (D) Launching stage.
The launching stage of the family life cycle marks the period when young adult children begin to leave the parental home. This transition is usually driven by pursuits such as higher education, starting a career, or getting married. It represents a significant shift for the family system as it adapts to the departure of its members. Parents must navigate their changing roles and the "empty nest" while maintaining supportive relationships with their now independent children.

63. (A) To facilitate self-understanding and the ability to make choices.
The primary role of a counselor is to provide a supportive environment that helps individuals gain a deeper understanding of themselves and their situations. Rather than giving direct advice or solving problems for the client, the counselor facilitates the process of exploration and self-discovery. This empowerment-based approach enables clients to develop their own insights and make informed, voluntary choices about their lives. The counselor acts as a guide in the client's personal growth.

64. (A) Both A and R are true and R is the correct explanation of A.
Domestic violence is recognized as a grave violation of human rights because it fundamentally harms an individual's dignity and safety. It directly infringes upon the right to life, liberty, and security of person. Furthermore, domestic abuse can involve acts that constitute torture or cruel, inhuman, and degrading treatment, which are strictly prohibited under international law. By framing domestic violence as a human rights issue, societies emphasize the state's obligation to protect victims and hold abusers accountable.

65. (B) In-depth, semi-structured interviews.
To understand the lived experiences and personal perspectives of a specific group, such as single mothers, qualitative research methods are often the most appropriate. In-depth, semi-structured interviews allow participants to share their stories in their own words, providing rich and detailed information. This approach enables the researcher to explore complex themes and capture the nuances of the participants' experiences. It is more flexible than structured questionnaires and offers deeper insight than large-scale statistical analysis.

66. (A) Achieving a balance between family togetherness and individual autonomy.
Bowenian family therapy focuses on the concept of the differentiation of self, which is the ability to maintain one's own identity while staying emotionally connected to the family. The approach emphasizes achieving a healthy balance between the desire for togetherness and the need for individual autonomy. By understanding the emotional processes within the family across generations, individuals can learn to manage their reactivity and function more effectively. This leads to improved relationships and overall family stability.

67. (C) Lack of coordination between different government departments.
Effective implementation of family welfare programs often requires collaboration between multiple sectors, such as health, education, and social services. A major challenge arises when there is a lack of coordination between these different government departments, leading to fragmented services and inefficiencies. This can result in duplication of efforts or gaps in care, preventing the programs from reaching those who need them most. Improved inter-departmental cooperation is essential for delivering comprehensive and effective support to families.

68. (D) Family in later life (post-launching).
The "empty nest" syndrome describes the feelings of sadness, loss, or loneliness that some parents experience when their last child leaves home. This transition typically occurs during the later life stage of the family life cycle, following the launching of all children. While many parents successfully adapt and enjoy

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often leads to significant stress and instability for both adults and children involved.

54. (B) Health is a dynamic process with different priorities at different stages.
The concept of health across the lifespan recognizes that well-being is not a static state but a continuous and evolving process. Different stages of life, from infancy through old age, present unique health challenges and development goals. For example, priorities might shift from growth and immunization in childhood to managing chronic illness in later years. This perspective emphasizes the need for age-appropriate interventions and the importance of maintaining physical, mental, and social health at every age.

55. (B) P-2, Q-4, R-3, S-1.
Research is based on specific concepts used to systematically investigate a topic. The population is the entire group that a researcher is interested in studying. A sample is a smaller subset of that population selected for actual investigation. Data refers to the factual information collected during the study. A hypothesis is a testable statement that predicts a relationship between variables. Understanding these terms is essential for designing and conducting valid scientific research studies.

56. (A) Using threats and bribes to control behavior.
Positive parenting is founded on principles of mutual respect, warmth, and effective communication. It focuses on teaching children self-discipline by setting clear boundaries and providing consistent guidance. Using threats or bribes to manipulate behavior is inconsistent with this approach, as it relies on external control rather than internal development. Instead, positive parenting encourages children to understand the reasons behind rules and to develop a sense of responsibility for their own actions and choices.

57. (C) Women are human beings entitled to all human rights.
Women's rights are fundamentally human rights because they are based on the universal principle of the dignity and equality of all persons. Every individual, regardless of their sex, is entitled to the full range of human rights, including civil, political, economic, social, and cultural rights. Recognizing women's rights as human rights ensures that they are protected from discrimination and violence. This perspective emphasizes that these rights are inherent and not something granted as a favor.

58. (A) To help the family mobilize resources and develop coping strategies.
When a family faces a crisis, their usual ways of handling problems may become overwhelmed, leading to a state of disequilibrium. Counseling in these situations aims to help the family identify and utilize their internal and external resources. The counselor works with the family to develop new coping strategies and restore a sense of stability. This process focuses on empowering the family to manage the immediate challenge and build resilience for the future.

59. (C) Statement I is true, but Statement II is false.
Family structures have undergone significant changes in response to broader societal shifts, such as the rise in single-parent households. These changes are often driven by factors like the increasing economic independence of women and evolving social norms regarding divorce. Changes in laws and cultural attitudes toward family and marriage directly impact how individuals form and maintain family units. Understanding these influences is essential for developing social policies that effectively support diverse family forms.

60. (B) Draw conclusions about a population based on a sample.
Inferential statistics are essential in research for making claims that go beyond the specific data collected from a sample. They allow researchers to estimate population parameters and test hypotheses about the relationships between variables. By using probability theory, inferential methods provide a way to determine the likelihood that the results found in a sample would also be true for the larger population. This makes it possible to generalize findings and contribute to broader scientific knowledge.

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61. (A) 1 and 2 only.
Marital disharmony represents a state of chronic conflict and poor adjustment between spouses, which can have significant negative consequences. It often creates a stressful home

gender equality or the social and legal status of women.

76. (B) The Universal Declaration of Human Rights (UDHR).
The Universal Declaration of Human Rights is the foundational document that established the global standard for the protection of human rights. It asserts that these rights are universal, meaning they belong to everyone; inalienable, meaning they cannot be taken away; and indivisible, meaning all rights are equally important. By providing a comprehensive framework for dignity and freedom, the UDHR has influenced numerous national constitutions and international treaties, shaping the modern understanding of justice and equality for all human beings.

77. (C) Tabulation.
Tabulation is a central method in research for organizing and summarizing data in a structured format. By using rows and columns, it allows researchers to present information clearly and facilitates the comparison of different categories or variables. This systematic arrangement makes it easier to identify patterns, trends, and relationships within the data set. Tabulation is an essential step that follows data classification and precedes the final analysis and interpretation of research findings.

78. (C) Statement I is false, but Statement II is true.
Marital disharmony is a systemic issue that impacts the entire family unit, not just the two spouses involved. The chronic conflict and emotional distance characteristic of a disharmonious marriage create an unstable and stressful environment for children. This can lead to various emotional and behavioral problems for them, such as anxiety, depression, or difficulty in school. Recognizing the far-reaching effects of marital discord is crucial for providing effective support and intervention for all family members.

79. (A) Instilling values of citizenship and productivity in its members.
The family is a primary agent of socialization and plays a vital role in national development by shaping the character and skills of its members. By instilling values such as responsibility, work ethic, and civic duty, families prepare individuals to become productive and engaged citizens. This nurturing of human capital is essential for the economic growth and social stability of a nation. The family's contribution lies in its ability to develop responsible individuals who contribute to the broader community.

80. (B) The member who is seen by the family as having the problem.
In family therapy, the term 'identified patient' refers to the family member who is singled out as the one with the symptoms or problems that brought the family into treatment. This individual is often seen by the other family members as the primary source of the family's distress. However, family therapists view the identified patient's behavior as a symptom of dysfunctional dynamics within the entire family system, rather than just an individual problem.

81. (B) Accepting the exit and entry of family members as children leave.
The launching stage of the family life cycle is characterized by the significant transition that occurs as children reach adulthood and leave the parental home. This period involves accepting the exit of children as they move toward independence and potentially the entry of new members through their children's marriages. Parents must adapt to these changes by renegotiating their roles and their own relationship, while maintaining supportive connections with their adult children as the family system evolves.

82. (A) The transition of a child into adolescence.
A developmental crisis is a predictable period of disruption that occurs as a family moves through the stages of its life cycle. These crises are triggered by normal transitions that require the family to adapt to new roles and expectations. The shift into adolescence is a classic example, as it involves renegotiating boundaries and autonomy between parents and children. While stressful, these transitions are a necessary part of healthy family development and offer opportunities for growth and reorganization.

83. (A) Both A and R are true and R is the correct explanation of A.
Family dynamics play a fundamental role in shaping the health and well-being of individuals throughout their lives. The family serves as the

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primary context for the development of lifestyle habits, such as diet and physical activity, and provides the essential emotional support system. These internal family processes significantly influence an individual's ability to manage stress and maintain overall health. Therefore, understanding family interactions is crucial for promoting healthy behaviors and ensuring well-being across the entire lifespan.

84. (D) Developmental and child psychology.
Positive parenting is an approach based on the principles of developmental and child psychology. It emphasizes nurturing a child's healthy growth by focusing on their strengths and building a warm, respectful relationship. This model prioritizes non-violent discipline and proactive guidance to help children develop emotional intelligence and self-control. By understanding how children grow and learn at different stages, positive parenting provides parents with effective tools for raising resilient and socially competent individuals in a supportive environment.

85. (C) Coding - Assigning symbols to data for classification.
Research terms must be correctly understood to ensure the accuracy of data analysis. Coding is a specific process that involves assigning numerical or symbolic values to qualitative or raw data. This step transforms the information into a format that can be easily categorized and manipulated for statistical analysis. In contrast, descriptive statistics serve to summarize the data, and inferential statistics are used for generalizations. Tabulation refers to the final presentation of data in structured tables.

86. (C) 1, 2, and 3 only.
The Protection of Women from Domestic Violence Act offers several legal remedies to help victims of abuse. These include protection orders to prevent further violence, residence orders to ensure the victim can stay in their home, and monetary relief for expenses. However, the act does not allow for immediate imprisonment without a fair hearing, as it follows established legal procedures for due process. These provisions are designed to prioritize the safety and economic security of women facing domestic abuse.

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87. (D) Polygynous family - One woman is married to multiple men.
Family and marriage types are defined by specific characteristics of structure and descent. A polygynous family is one where one man is married to more than one woman at the same time. This is distinct from polyandry, which involves one woman married to multiple men. Other terms like nuclear family, matrilocal residence, and patrilineal descent accurately describe specific arrangements of household members, living locations, and kinship lines within different cultural and social systems around the world.

88. (A) Respect for the views of the child.
The Convention on the Rights of the Child is built upon four fundamental core principles that guide its implementation. These include non-discrimination, the best interests of the child, and the right to life, survival, and development. The fourth key principle is respect for the views of the child, which asserts that children have the right to express their opinions in all matters affecting them and to have those views taken seriously according to their age and maturity.

89. (C) The caregiver's own feelings of guilt, anger, and burnout.
Providing counseling to caregivers of individuals with chronic illness is complex due to the intense emotional experiences involved in the role. Caregivers often struggle with deep-seated feelings of guilt about their own needs, anger toward the situation, and profound physical and mental burnout. These emotions can make it difficult for them to prioritize their own well-being or seek help. Counselors must address these specific internal challenges to effectively support caregivers in maintaining their health and resilience.

90. (C) P-4, Q-1, R-2, S-3.
Health concerns evolve significantly as individuals progress through different stages of the life span. In infancy, the focus is on physical development and protection through immunizations. Adolescence brings challenges related to identity and navigating peer relationships. Middle adulthood is often marked by the onset of chronic health conditions and physiological changes. Finally, old age is characterized by geriatric

syndromes and cognitive decline. Recognizing these shifting priorities is essential for providing age-appropriate healthcare and support for well-being.

91. (D) A persistent state of conflict and emotional distance.
Marital disharmony is a term used to describe a long-term pattern of discord and failure to adjust within a marriage. This state goes beyond temporary disagreements, representing a deep and persistent lack of cooperation and emotional connection between partners. Such chronic conflict creates a stressful environment that can negatively affect the well-being of the couple and their children. Resolving disharmony typically requires a significant change in interaction patterns and may involve seeking professional counseling or therapy.

92. (B) Tabulation.
Tabulation is a systematic process in research that involves presenting classified data in a structured format using rows and columns. This method provides a clear and concise summary of the information, allowing for easy comparison and identification of trends. By organizing data into tables, researchers can make their findings more accessible and facilitate the final analysis and interpretation of the results. Tabulation is an essential step that bridges raw data collection with the reporting of findings.

93. (C) Statement I is false, but Statement II is true.
Single-parent families are not inherently dysfunctional; rather, the success and well-being of children in these households depend on several external factors. Socio-economic stability and the overall mental health of the parent play much more critical roles than the simple structure of the family. With adequate resources, social support, and nurturing parenting, children from single-parent homes can thrive and achieve the same positive outcomes as those from two-parent households. Policy should focus on providing these necessary supports.

94. (D) A situation where usual coping mechanisms are overwhelmed.
A family crisis is defined as a state of acute disruption where the family's standard methods of solving problems and managing stress are no longer effective. This leads to a sense of disequilibrium and intense pressure as the family struggles to adapt to overwhelming challenges. Whether triggered by sudden events or chronic strain, the defining feature is the breakdown of normal functioning. Crisis resolution requires the family to develop new coping strategies and often involves seeking outside professional assistance.

95. (A) 2, 4, 3, 1.
Conflict resolution strategies can be categorized based on the level of cooperation they involve. Competing is the least cooperative, focusing solely on one's own interests. Avoiding is also low in cooperation, as it sidesteps the issue entirely. Accommodating shows more cooperation by giving in to the other's needs. Collaborating is the most cooperative style, as it involves both parties working together to find a mutually beneficial solution. Understanding these styles helps individuals choose more effective ways to manage disagreements.

96. (B) Preventive approach.
The preventive approach to family welfare aims to address potential problems before they occur by providing families with necessary tools and knowledge. Initiatives like pre-marital counseling and parent education are key components of this strategy. By strengthening family functioning and promoting healthy interaction patterns, the approach seeks to reduce the likelihood of future conflict or crisis. This proactive model is essential for fostering long-term family stability and well-being, focusing on building capacity rather than just treating existing problems.

97. (B) Societal norms and cultural learning.
Gender roles represent the behaviors and attributes that a particular society considers appropriate for men and women. These roles are primarily determined through a process of socialization, where individuals learn cultural norms from family, peers, and the media. Unlike biological sex, gender roles are not fixed and can vary significantly across different cultures and change over time. Understanding the social construction of gender is crucial for analyzing how expectations influence individual opportunities and societal power dynamics.

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98. (A) To impose the counselor's values on the client.
The fundamental goal of guidance and counseling is to help individuals develop a deeper self-understanding and the capacity to make their own informed choices. A professional counselor provides a supportive and non-judgmental environment that facilitates personal growth and problem-solving. It is essential that counselors do not impose their own values or decisions on the client, but rather empower the individual to navigate their life situations based on their own beliefs and insights. Respecting the client's autonomy is a core ethical principle.

99. (C) Mental health is a crucial component of well-being at every age.
A comprehensive view of health across the lifespan recognizes that well-being is not just the absence of physical disease but includes mental and social dimensions. Mental health remains a critical component of overall well-being at every stage of life, from childhood through old age. While specific health challenges and priorities change as individuals grow, maintaining emotional stability and psychological resilience is always essential. This perspective emphasizes the importance of holistic care that addresses both physical and mental health needs at all ages.

100. (A) 1, 2, 3, and 4 only.
Data analysis involves several key processes to make sense of research information. Descriptive statistics are used to summarize data, while inferential statistics allow for generalizations to a larger population. Coding involves assigning numerical values to qualitative data to facilitate analysis, and tabulation presents this information in structured tables. While many studies use quantitative data, research can also be purely qualitative. Therefore, the claim that all data must be quantitative is incorrect, as different methods serve different research goals.

101. (C) Marriage is a legal contract; family is the resulting kinship group.
Although often used together, marriage and family represent distinct social concepts. Marriage is a legally and socially recognized contract between individuals that establishes rights and obligations between them and their respective families. The family is the broader kinship group that often results from this union, consisting of individuals related by blood, marriage, or adoption who live together and share common goals. Understanding this distinction is important for analyzing the different legal and social structures that govern human relationships.

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102. (A) Both A and R are true and R is the correct explanation of A.
The family is the primary unit of socialization and plays a foundational role in national development. It is within the family that children first learn the values, behaviors, and skills necessary to become productive members of society. By nurturing the next generation and shaping the future workforce and citizenry, families directly influence a nation's economic and social progress. Therefore, supporting healthy family functioning is a critical investment in the overall development and stability of any country.

103. (D) Finding a peaceful and mutually acceptable solution to a disagreement.
Conflict resolution is a constructive process aimed at managing and resolving disagreements in a way that respects the needs and interests of everyone involved. The goal is to move beyond hostility and reach a peaceful, mutually acceptable solution. This process typically involves open communication, active listening, and a willingness to compromise or collaborate. By focusing on problem-solving rather than winning, conflict resolution helps to maintain and strengthen relationships within a family or any social group.

104. (A) A focus on child strengths and a warm relationship.
Positive parenting is a child-rearing approach that prioritizes building a strong, warm, and respectful relationship between parents and children. It focuses on identifying and nurturing a child's individual strengths rather than just correcting their weaknesses. This model uses non-violent discipline and proactive guidance to teach children self-regulation and social skills. By creating a supportive and encouraging environment, positive parenting helps children develop resilience, self-esteem, and a sense of responsibility for their own actions and choices.

105. (A) P-3, Q-4, R-1, S-2.

Family studies use several key terms to describe different situations and interventions. Family disorganization refers to the breakdown of established roles and structures, often due to events like divorce. A single-parent family is a household with one parent and dependent children. A family crisis is a state of acute disruption where usual coping mechanisms fail. Family therapy is a specialized therapeutic intervention that focuses on the patterns of interaction within the entire family system to improve functioning.

106. (A) Patriarchal family.
A patriarchal family is a social system in which authority and power are primarily held by the eldest male member of the household. In such families, the patriarch typically makes the major decisions and controls the family's resources and property. This structure often involves patrilineal descent, where lineage and inheritance are traced through the male line. While less common in some modern societies, patriarchal systems remain a significant form of family organization in many cultures worldwide.

107. (D) Her position in the social hierarchy determined by access to power.
The status of women is a multidimensional concept that refers to their overall position within a society's social hierarchy. This status is determined by their level of access to power, resources, and opportunities in various spheres, including economic, political, and social life. It reflects the degree of equality women have compared to men and is influenced by legal rights, cultural norms, and educational attainment. A higher status for women is a key indicator of a society's progress and development.

108. (B) The caregiver's feelings of isolation and stress.
Caregivers of individuals with chronic illnesses often face immense physical and emotional demands that can lead to significant stress and a sense of isolation. Counseling for these individuals is crucial because it provides a supportive space to address these feelings and develop effective coping strategies. By helping caregivers manage their own well-being, counseling indirectly improves the quality of care they provide. Supporting the caregiver is an essential part of a holistic approach to managing long-term health conditions.

109. (C) It is a static state achieved in early adulthood.
Health and well-being are dynamic and multifaceted concepts that encompass physical, mental, and social dimensions. Rather than being a static state achieved at a particular age, health is an evolving process that changes throughout the entire life span. Different stages of life bring unique challenges and priorities for maintaining well-being. Furthermore, the family environment plays a significant role in influencing an individual's health behaviors and emotional stability at every stage of their development.

110. (D) A population.
In the context of research, a population refers to the entire set of individuals, objects, or events that the researcher is interested in studying. This group is defined by specific characteristics relevant to the research question. Because it is often impossible to study an entire population, researchers typically select a smaller subset, known as a sample, to represent the whole. Findings from the sample are then used to make generalizations about the larger population using statistical methods.

111. (B) 1, 2, and 4 only.
Family welfare programs generally adopt three main approaches to support families: remedial, preventive, and developmental. The remedial approach focuses on treating existing problems, while the preventive approach aims to stop difficulties before they arise through education and support. The developmental approach emphasizes building a family's internal strengths and capacities for self-reliance. Punitive measures, which involve punishment, are not considered a standard or helpful approach to promoting the well-being and health of families in social work.

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112. (B) Remorse, apology, and kindness from the abuser.
The cycle of violence theory describes a pattern often found in abusive relationships, consisting of three phases: tension building, an acute violent episode, and a "honeymoon" phase. Following a violent incident, the abuser may show remorse,

offer apologies, and act with kindness to maintain the relationship and regain the victim's trust. This period of calm can give the victim false hope that the abuse will end, making it more difficult for them to leave the situation.

113. (B) Promote understanding of child development stages and needs.
Parent education programs are designed to empower caregivers by providing them with evidence-based information about how children grow and develop. By promoting an understanding of the specific needs and behaviors characteristic of different developmental stages, these programs help parents set realistic expectations and use more effective parenting strategies. The goal is to strengthen the parent-child relationship and foster a supportive environment for the child's healthy growth, rather than undermining parental authority or imposing a rigid manual.

114. (A) The desertion of a spouse.
Family disorganization is characterized by a breakdown in the established roles and structural ties within a household. Events that fundamentally alter the family membership or the commitment of its members can serve as direct causes of this process. The desertion of a spouse is a significant example, as it involves the sudden abandonment of family responsibilities and disrupts the system's stability. Such events require a major reorganization and can lead to long-term emotional and social challenges for the family.

115. (C) Narrative Family Therapy.
Narrative family therapy is based on the idea that people's lives are shaped by the stories they tell about themselves. In this approach, a therapist helps a family identify "problem-saturated" stories that contribute to their distress and work to reframe these narratives. By focusing on strengths and exceptions to the problem, the family can develop a new, more positive life story. This technique empowers the family to view their situation from a different perspective and create more satisfying outcomes.

116. (D) The child's well-being should be a primary consideration.
The principle of the "best interests of the child" is a core tenet of the Convention on the Rights of the Child. it requires that in all actions concerning children, their well-being and healthy development must be a primary consideration. This applies to decisions made by parents, legal authorities, and social welfare institutions. While a child's views should be considered, the principle focuses on ensuring that their overall safety, health, and fundamental rights are protected and prioritized in any situation.

117. (C) Statement I is false, but Statement II is true.
Although the terms guidance and counseling are related, they represent distinct processes. Guidance is a broader and often preventive concept that involves providing information and support to help individuals make informed choices and navigate life transitions. Counseling is typically more focused and intensive, addressing specific existing problems or emotional difficulties through a therapeutic relationship. Understanding this distinction is important for ensuring that individuals receive the most appropriate type of support for their particular needs and situations.

118. (B) Developing identity and navigating peer relationships.
Adolescence is a significant developmental stage characterized by major physical, cognitive, and social changes. A key aspect of health during this period is the process of developing a stable sense of personal identity and learning to navigate increasingly complex peer relationships. Adolescents must balance the desire for independence with the need for social belonging. Promoting positive mental health and providing support during these transitions are essential for ensuring well-being and building resilience as they move toward adulthood.

119. (D) Qualitative data coding.
In qualitative research, coding is the systematic process of identifying and categorizing themes or patterns within non-numerical data, such as interview transcripts. By assigning labels to specific segments of the data, researchers can organize information and identify key concepts, like financial stress. This allows for a structured analysis of the participants' lived experiences and perspectives. Coding is a critical step that enables researchers to move from raw data to a deeper understanding of the research topic.

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120. (A) Both A and R are true and R is the correct explanation of A.
The increasing prevalence of single-parent families presents unique challenges that require targeted social policies. These families are often at a higher risk of experiencing poverty and social exclusion due to the reliance on a single income and the demands of solo parenting. To ensure the well-being of both parents and children, policies must address their specific needs in areas such as affordable childcare, stable housing, and flexible employment opportunities. Supporting single-parent families is essential for promoting social equity.

121. (C) Childbearing family.
The transition from a dyad, consisting of a couple, to a triad, which includes the couple and their first child, occurs during the childbearing stage of the family life cycle. This period brings significant changes to the family's interaction patterns and roles as they adapt to the demands of caring for an infant. Parents must renegotiate their relationship with each other while establishing a new bond with their child. This stage is foundational for the family's future development.

122. (A) Power and authority are shared between the husband and wife.
An egalitarian family is a social structure characterized by the equal distribution of power and authority between the husband and wife. In such families, major decisions are typically made through mutual agreement and negotiation rather than being controlled by one person. Responsibilities for household management and childcare are often shared based on interests and abilities rather than traditional gender roles. This model of family organization promotes mutual respect and cooperation, reflecting broader societal moves toward gender equality.

123. (D) Building capacities and self-reliance through education.
The developmental approach to family welfare is a proactive strategy that focuses on strengthening the internal resources and skills of families. This approach emphasizes education and empowerment to help families become self-reliant and effectively manage their own well-being. By providing tools for healthy parenting, economic stability, and constructive communication, the developmental model aims to prevent future problems and promote long-term resilience. It views families as active participants in their own progress rather than just recipients of aid.

124. (B) Constant criticism, humiliation, and insults.
Emotional abuse is a form of domestic violence that involves a pattern of behavior used to undermine an individual's self-worth and psychological well-being. This can include constant criticism, public humiliation, and frequent insults. Unlike physical abuse, the harm is primarily mental and emotional, but it can be just as damaging and is often a precursor to other forms of violence. Recognizing emotional abuse is essential for providing comprehensive protection and support to victims in domestic relationships.

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125. (A) 1, 2 and 4 only.
India has implemented several significant initiatives directly focused on child development. Integrated Child Development Services provides a coordinated package of health, nutrition, and education for young children. Sarva Shiksha Abhiyan is a major program aimed at universalizing elementary education. The Mid-Day Meal Scheme supports child nutrition and school attendance. Other programs like the National Pension System or Pradhan Mantri Jan Arogya Yojana are broader social security or health initiatives that do not target children as their primary focus.

126. (D) Respect for the dignity and worth of every individual.
Human rights are based on the fundamental principle that every person is born with inherent dignity and worth. This concept asserts that all individuals are entitled to certain basic rights and freedoms simply by virtue of being human, regardless of their race, sex, nationality, or any other status. This universal value provides the foundation for international human rights law and emphasizes the responsibility of states and societies to respect and protect the fundamental rights of every person.

127. (A) Assess compatibility and develop communication skills.

harmful effects demonstrate the critical need for child protection and family support.

171. (D) To destigmatize issues and promote seeking help.
A major aim of community education on family issues is to improve the well-being of families by fostering a more supportive social environment. These programs work to raise public awareness about challenges like parenting, mental health, and domestic conflict. By providing accurate information and reducing the stigma associated with these issues, community education encourages individuals and families to seek help when needed. This collective approach helps to build a community where families feel empowered to use available resources and support systems.

172. (B) Breakdown in performance of roles and social controls.
Family disorganization is a sociological concept that describes a state where the traditional structure and functional roles of the family unit are no longer working effectively. This breakdown in the performance of roles and the loss of social controls within the household can lead to significant instability and conflict. While families can often reorganize into new and healthy forms, the period of disorganization is characterized by a failure to meet the needs of members and a lack of collective purpose or direction.

173. (C) Restructure the family by altering boundaries and hierarchies.
Salvador Minuchin's structural family therapy is based on the idea that family problems are rooted in dysfunctional organizational structures. The primary goal of the therapist is to restructure the family system by clarifying and altering boundaries and hierarchies between members. By creating more flexible and supportive structures, the therapy aims to improve interaction patterns and enhance the family's overall functioning. This active and directive approach focuses on changing the family's current organization to resolve presenting problems and promote healthy relationships.

174. (D) Universal Declaration of Human Rights (UDHR).
The Universal Declaration of Human Rights begins with the powerful assertion that "All human beings are born free and equal in dignity and rights." This first article establishes the foundational principle of human equality and dignity that underpins the entire document and the modern human rights movement. By providing a universal standard for justice and freedom, the UDHR has influenced international law and countless national constitutions, emphasizing that fundamental rights belong to every person by virtue of their common humanity.

175. (A) 3, 1, 4, 2.
Human development follows a typical sequence of stages across the entire life span. It begins with infancy, a period of rapid growth and foundational learning. This is followed by adolescence, a time of significant transition and identity formation. Individuals then move into middle adulthood, focusing on career, family, and social responsibilities. The cycle concludes with old age, a stage often characterized by retirement and adapting to the physical and social changes associated with the later years of life.

176. (B) Statistic.
In research and data analysis, a distinction is made between characteristics of a whole population and those of a smaller group selected for study. A statistic is a numerical value, such as a mean or average, that is calculated from a sample. It serves to summarize or describe the specific data collected from that subset of the population. This sample statistic is then used by researchers to estimate the corresponding population parameter, which is a characteristic of the entire group.

177. (B) The evolving interplay of communication, power, and roles.
Marital dynamics refer to the ongoing and evolving patterns of interaction between partners in a marriage. This concept encompasses the complex interplay of communication styles, power structures, and the definition of individual roles within the relationship. These dynamics are not fixed but change over time in response to life events, personal growth, and external influences. Understanding marital dynamics is essential for analyzing how couples manage conflict, make

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equal rights for women in all matters related to marriage and family relations. This includes the right to freely choose a spouse and the right to the same responsibilities during marriage and at its dissolution. However, the convention does not grant a right to unilateral divorce without any legal process. Instead, it ensures that divorce laws and procedures are non-discriminatory and protect the rights of both partners and their children.

135. (A) P-3, Q-4, R-1, S-2.
Family studies use several key concepts to understand interactions and well-being. Domestic violence is a pattern of abusive behavior used to maintain power and control. Marital disharmony is a persistent state of discord and lack of adjustment in a marriage. Conflict resolution involves processes like negotiation and mediation to find solutions. Positive parenting is an authoritative, warm approach to child-rearing. Understanding these distinct concepts is essential for providing appropriate support and intervention to strengthen family relationships.

136. (A) Extended family.
An extended family is a social unit that includes relatives beyond the immediate nuclear family, such as grandparents, aunts, uncles, or cousins, often living in the same household or close proximity. This structure provides a broad network of social and economic support for its members. While nuclear families focus on the parent-child bond, extended families emphasize wider kinship ties and collective responsibility. These family forms are common in many cultures and offer significant benefits for childcare and elderly support.

137. (C) The family functions in complete isolation from economic systems.
The family is a fundamental social institution that is deeply integrated with the broader economic and political systems of a nation. It acts as the basic unit of both consumption and savings, directly influencing the national economy. Families are also the primary setting for nurturing human capital through health and education, which is essential for development. The idea that families function in isolation is incorrect, as their well-being and productivity are crucial for the overall progress of society.

138. (A) Sidestepping, postponing, or withdrawing from the conflict.
The avoiding style of conflict management is characterized by a low level of both assertiveness and cooperation. In this approach, an individual may choose to sidestep the issue, postpone a discussion, or completely withdraw from the situation. While this can be a useful temporary strategy to allow emotions to cool down, chronic avoidance prevents the resolution of underlying problems. Over time, this can lead to unresolved tensions and a breakdown in communication within a family or relationship.

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139. (C) Statement I is true, but Statement II is false.
Positive parenting involves establishing firm, consistent, and fair limits for children to provide them with a sense of security and structure. The goal of setting these boundaries is not to punish the child, but to teach them self-control and help them understand appropriate behavior. By providing clear guidance within a warm and supportive relationship, parents help children internalize values and develop the skills necessary for responsible and independent functioning as they grow and mature.

140. (B) Chronic and unresolved marital conflict.
Family disorganization is a process characterized by the breakdown of established roles and the disruption of structural ties within the household. Chronic and unresolved marital conflict serves as a common and powerful precursor to this phenomenon. Persistent discord and a failure to adjust create a stressful environment that weakens the bonds between members and impairs the family's ability to function as a unit. Over time, these unresolved issues can lead to legal separation, divorce, or other forms of family dissolution.

141. (B) 1, 2, and 4 only.
A family crisis is a state of acute disruption where the family's usual methods of problem-solving and coping are overwhelmed. This situation creates a state of disequilibrium and intense stress as members struggle to adapt. While some crises are caused by external events, others can be triggered by internal developmental transitions. The outcome of a crisis is not always negative; it can lead to a return to previous functioning, a

lower level of adjustment, or even a higher level of growth and resilience.

142. (D) The Convention on the Rights of the Child (CRC).
The Convention on the Rights of the Child is the primary international treaty that establishes the comprehensive rights of children. It includes specific provisions to protect children from economic exploitation and from performing any work that is likely to be hazardous or interfere with their education. By enshrining these rights, the CRC obligates states to take legislative and social measures to prevent child labor and ensure that every child can grow up in a safe and supportive environment.

143. (A) Grief or bereavement counseling.
Grief or bereavement counseling is a specialized form of therapy designed to help individuals cope with the emotional and psychological impact of losing a loved one. It provides a supportive environment for expressing feelings of sadness, anger, and loss and helps the individual navigate the difficult process of adjustment. This type of counseling is particularly appropriate for someone struggling with the recent death of a spouse, as it addresses the unique challenges of rebuilding life after such a significant loss.

144. (A) Both A and R are true and R is the correct explanation of A.
Geriatric health is a critical area of focus within the broader framework of health across the lifespan. The elderly population faces a unique set of challenges, including the onset of multiple chronic diseases, physical frailty, and cognitive decline. These complex issues require specialized care strategies and age-appropriate interventions to ensure well-being and a high quality of life in later years. Recognizing the specific needs of older adults is essential for providing effective and compassionate healthcare within the family and society.

145. (B) Classification and Tabulation.
In research, organizing raw data into meaningful groups based on common characteristics is known as classification. Once the data is classified, presenting it in a structured format using rows and columns is referred to as tabulation. These processes work together to provide a clear and concise summary of the research findings, such as the frequency of different marital statuses. This systematic arrangement is essential for making the data manageable and facilitating the final analysis and interpretation of the results.

146. (A) An arranged marriage.
An arranged marriage is a type of union where the partners are primarily chosen by their parents or other family members rather than through individual romantic selection. This practice is common in many cultures and is based on the idea that marriage is an alliance between two families as well as a commitment between individuals. While family involvement is high, many modern arranged marriages also include the consent and participation of the couple. This family-centered approach aims to ensure social and economic stability.

147. (C) A mix of preventive and remedial approaches.
Government policies that provide incentives for hospital births utilize a combination of preventive and remedial approaches to family welfare. By encouraging professional medical care, the policy aims to prevent maternal and neonatal health problems before they occur. At the same time, it provides remedial support by ensuring that any existing complications during childbirth can be immediately addressed by medical staff. This multi-faceted strategy focuses on improving health outcomes and promoting the well-being of the most vulnerable family members.

148. (D) It gives the victim false hope that the abuser has changed.
In the cycle of violence, the "honeymoon phase" is a period following a violent episode where the abuser shows remorse and acts with kindness. This phase is dangerous because it can create a powerful but false sense of hope in the victim that the abuser has permanently changed and that the violence will not recur. This illusion can make it much more difficult for the victim to leave the relationship, keeping them trapped in a repetitive cycle of harm and manipulation.

149. (C) Create a supportive environment for addressing family issues.
Community education on family studies is designed to strengthen families by building collective knowledge and fostering supportive

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social attitudes. These programs provide information on topics like parenting, health, and relationship dynamics to the broader public. By promoting awareness and reducing stigma, these initiatives create an environment where families feel more comfortable seeking help and using available resources. The goal is to enhance the community's overall capacity to support healthy family functioning and improve well-being for all members.

150. (C) 1, 3, and 5 only.
Single-parent families are a growing and diverse group within many societies. They can be headed by either a mother or a father and can result from divorce, death, or an individual choosing to raise a child alone. These families often face significant challenges, including role overload and financial pressure. However, children in these households are fully capable of forming secure attachments with nurturing care. Understanding the unique needs and strengths of single-parent families is essential for developing supportive social policies.

151. (D) The family's hierarchy, boundaries, and subsystems.
Structural family therapy, developed by Salvador Minuchin, focuses on the organizational structure of the family system. The therapist examines the family's hierarchy, the boundaries between members, and the functioning of various subsystems, such as the parental or sibling groups. By identifying and altering dysfunctional structures, the therapy aims to improve how the family operates as a whole. The goal is to create more flexible and supportive boundaries that allow for healthy interaction and effective problem-solving among all family members.

152. (A) The right to be free from discrimination.
International human rights law establishes that all individuals, regardless of their sex, are entitled to full equality and dignity. A primary right for women is the right to be free from all forms of discrimination in all spheres of life, including economic, political, and social participation. This principle is enshrined in documents like the Convention on the Elimination of All Forms of Discrimination Against Women. Ensuring non-discrimination is fundamental for achieving gender equality and protecting women's fundamental rights and opportunities.

153. (C) "Sandwich" generation.
The "sandwich" generation refers to a specific group of adults who find themselves simultaneously caring for their own young children and their aging parents. This situation can lead to significant physical, emotional, and financial strain as the individual manages the needs of multiple generations at once. Navigating these dual caregiving responsibilities requires effective time management and strong social support. The growth of this group is a reflection of shifting demographics, including increased life expectancy and delayed parenthood in many modern societies.

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154. (A) Proper nutrition, immunization, and secure attachment.
Infancy is a critical stage of development where well-being is primarily focused on meeting basic needs and ensuring a healthy start in life. The most significant health challenges during this period include providing proper nutrition for growth and protection from infectious diseases through immunizations. Furthermore, establishing a secure emotional attachment with primary caregivers is essential for the child's future psychological health and social development. Addressing these fundamental needs lays the groundwork for well-being across the entire lifespan.

155. (D) Hypothesis.
A hypothesis is a fundamental component of the scientific method in research. It is a tentative, testable prediction or statement about the relationship between two or more variables. Researchers formulate hypotheses based on existing theories or previous observations and then design studies to collect data to either support or refute them. A well-constructed hypothesis provides a clear direction for the research process and allows for the systematic investigation of a specific question or problem to build knowledge.

156. (B) The patterns of interaction and relationships.
The term family dynamics refers to the ongoing patterns of interaction, communication, and emotional relationships between family members. This concept examines how members relate to each other, how roles are defined, and how the family manages conflict and change.

Pre-marital counseling is a proactive form of guidance designed to help couples build a strong foundation for their future marriage. The process provides a structured environment for partners to assess their compatibility and discuss important issues like finances, roles, and values. A primary focus is on developing effective communication and conflict resolution skills to manage the challenges that naturally arise in long-term relationships. By addressing potential problems early, pre-marital counseling aims to enhance marital stability and satisfaction.

128. (B) Components and challenges of well-being differ at various life stages.
The concept of well-being across the lifespan acknowledges that what constitutes health and a high quality of life changes as individuals grow and age. Each stage of development, from infancy through later life, presents unique physiological, psychological, and social challenges. For example, priorities might shift from achieving developmental milestones in childhood to managing life transitions and chronic conditions in old age. A holistic approach to well-being requires age-appropriate support and interventions that address the specific needs of each life stage.

129. (B) Measures of central tendency.
In statistics, the mean, median, and mode are all types of measures of central tendency used to describe a data set. These measures identify a single value that represents the center or typical value of the distribution of data points. The mean is the mathematical average, the median is the middle value, and the mode is the most frequently occurring value. Understanding these measures is essential for summarizing data and providing a clear overview of the characteristics of a sample.

130. (C) 1, 4, 2, 3.
Family disorganization often follows a logical sequence of events that lead to the breakdown of the household structure. This process typically begins with persistent marital conflict and disharmony, which can lead to a formal legal separation. If the issues are not resolved, the couple may proceed to filing for a divorce to legally end the marriage. This sequence often culminates in the formation of new single-parent families as the members reorganize their lives following the dissolution.

131. (C) Descriptive statistics summarizes sample data, while inferential statistics generalizes.
Descriptive and inferential statistics serve different but complementary roles in research. Descriptive statistics are used to organize, summarize, and present the characteristics of the data collected from a specific sample. They provide a clear overview of that particular group. Inferential statistics use probability theory to make claims and generalizations about a larger population based on the findings from the sample. This allows researchers to test hypotheses and draw broader conclusions beyond the immediate data set.

132. (D) Creates a social norm that values positive parenting.
Community education on parenting is effective because it works at the level of social influence to promote healthy family practices. By providing widespread information and fostering discussion, these programs help to create a new social norm that values and supports positive parenting. When these behaviors are seen as expected and beneficial by the broader community, parents feel more empowered and encouraged to use them. This collective approach complements individual support and helps to strengthen the overall well-being of families.

133. (C) Burnout and stress management.
Caregivers of individuals with chronic illnesses or disabilities often face intense physical and emotional demands that can lead to significant stress. Over time, these pressures can result in caregiver burnout, a state of profound exhaustion and reduced well-being. Counseling for caregivers frequently focuses on stress management techniques and providing emotional support to help them cope with their challenging roles. Addressing these issues is essential for maintaining the caregiver's own health and ensuring they can continue to provide effective care.

134. (B) The right to unilateral divorce without legal process.
The Convention on the Elimination of All Forms of Discrimination Against Women establishes

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this distinction is crucial for understanding how social norms influence individual opportunities and societal power dynamics.

164. (A) Both A and R are true and R is the correct explanation of A.
Counseling for caregivers is an essential component of a holistic approach to managing chronic illnesses. The intense physical and emotional demands of caregiving can lead to significant stress, which directly impacts the caregiver's well-being. Furthermore, because the caregiver is the primary source of support for the patient, their health and state of mind inevitably influence the quality of care provided. Supporting the caregiver through counseling ensures that both the individual and the patient receive the necessary care and attention.

165. (C) Experimental research.
Experimental research is a systematic approach used to investigate causal relationships between variables. It involves the researcher manipulating an independent variable and observing its effect on a dependent variable while controlling for other factors. A key feature is the random assignment of participants to either an experimental group, which receives the treatment, or a control group. This method allows researchers to determine if a specific intervention, like a parent education program, actually causes a change in outcomes.

166. (B) Maintaining social connections and adapting to physical changes.
Well-being in later life is often focused on successfully navigating the transitions and physical changes associated with aging. A critical aspect of health during this period is the maintenance of strong social connections and a sense of purpose to combat isolation and loneliness. Adapting to shifts in physical ability and cognitive health also plays a major role in overall quality of life. Providing age-appropriate support and creating inclusive environments are essential for ensuring dignity and well-being for older adults within their families and communities.

167. (D) Questionnaire.
A questionnaire is a primary method of data collection in research, consisting of a series of written questions used to gather information from participants. It can be used to collect both qualitative and quantitative data on various topics, such as attitudes, behaviors, and demographic characteristics. Questionnaires allow researchers to gather information from large numbers of people efficiently and systematically. Other terms like mean, standard deviation, and hypothesis refer to processes used in data analysis or the scientific method rather than the tools for collection.

168. (A) Caring for their own children while also caring for parents.
The "sandwich generation" describes a specific group of adults who find themselves simultaneously managing the caregiving needs of two different generations. They are "sandwiched" between their own young or adolescent children and their aging parents who may require physical or emotional support. This dual responsibility can lead to significant stress and financial pressure as the individual balances competing demands. This phenomenon is increasingly common due to societal changes such as longer life expectancy and people having children later in life.

169. (C) Human capital formation through health and education.
The family serves as a fundamental building block of society and plays a critical role in national development through the formation of human capital. By investing in the health, nutrition, and education of its members, the family prepares individuals to become productive and skilled contributors to the economy. This nurturing of future citizens is essential for sustainable economic growth and social stability. The family's influence on the quality of the workforce directly affects a nation's overall progress and development.

170. (A) 1, 2, and 4 only.
Domestic violence has profound and lasting negative impacts on children who witness or experience it within their homes. These can include a range of behavioral problems, such as increased aggression or withdrawal, and serious emotional distress, including anxiety and depression. Furthermore, witnessing violence can lead to its normalization, making it more likely that the child will use violence to resolve conflicts in their own future relationships. These

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185. (A) Both A and R are true and R is the correct explanation of A.
Coding is a vital step in quantitative data analysis because it enables researchers to systematically organize and analyze complex information. By assigning numerical values to qualitative or verbal responses, coding transforms raw data into a structured format suitable for statistical manipulation. This process allows for the identification of patterns and the testing of hypotheses about relationships between variables. Accurate coding is essential for ensuring the validity of research findings and making meaningful contributions to scientific knowledge.

186. (A) Adjustment to retirement, widowhood, and becoming grandparents.
The final stage of the family life cycle is often characterized by several major transitions and shifts in roles. These typically include adjusting to retirement from professional life and navigating the physical and social changes of aging. Many individuals also experience the loss of a spouse and may take on new roles as grandparents. These events require significant adaptation and emotional resilience. Maintaining strong social connections and a sense of purpose are essential for well-being and dignity during this later life stage.

187. (D) Children up to 6 years, pregnant women, and lactating mothers.
Integrated Child Development Services is a major family welfare initiative in India that targets the most critical stages of early childhood development. The program provides a coordinated package of health, nutrition, and pre-school education services primarily for children under the age of six. It also focuses on the well-being of pregnant women and lactating mothers to ensure safe motherhood and a healthy start for infants. By addressing these foundational needs, ICDS aims to improve the overall status of children and women.

188. (B) A discussion between parties with the aim of reaching an agreement.
Negotiation is a key process in conflict resolution involving a direct discussion between individuals or groups with the goal of reaching a mutually acceptable agreement. In this process, the parties communicate their needs, interests, and perspectives and work together to find common ground or creative solutions. Effective negotiation requires active listening, a willingness to understand the other side, and often some degree of compromise. This approach empowers people to manage their own disagreements and find outcomes that satisfy everyone involved.

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189. (C) Effective parenting skills can be learned and developed.
A fundamental message of parent education is that parenting is a set of skills that can be acquired and improved over time through knowledge and practice. Rather than being an innate ability, effective parenting involves learning about child development, communication, and discipline strategies. By providing evidence-based information and support, parent education programs empower caregivers to grow in their roles and create more nurturing environments for their children. This perspective encourages parents to be proactive in their own learning and development.

190. (A) P-3, Q-1, R-2, S-4.
Family concepts and residence patterns describe the diverse ways that societies organize domestic life and kinship. A blended family is created when individuals remarry and bring children from previous unions together. An egalitarian family is characterized by a shared distribution of power between spouses. Residence patterns like patrilocal involve a newly married couple living with the husband's family. Finally, descent systems like matrilineal trace kinship and inheritance through the female line, reflecting different cultural ways of defining family ties.

191. (A) Social stigma and lack of supportive policies.
Single-parent families often face unique challenges that go beyond the internal demands of solo parenting. In many societies, these families still encounter social stigma and negative stereotypes that can lead to isolation and a lack of community support. Furthermore, the absence of supportive social policies in areas like affordable childcare and flexible work can increase the risk of financial strain and role overload. Addressing these external barriers is essential for promoting the well-being and resilience of single-parent households.

decisions, and maintain emotional connection and satisfaction throughout their life together.

178. (A) Both Statement I and Statement II are true.
Family welfare can be approached through different strategies depending on the needs of the family system. The remedial approach focuses on addressing and treating problems after they have already occurred, such as managing a family in crisis. In contrast, the developmental approach is a proactive model that aims to build a family's internal capacities and skills to prevent future problems from arising. Both approaches are essential components of a comprehensive social welfare system that supports healthy and resilient families.

179. (C) Using "I" statements to express feelings and needs.
Constructive conflict resolution is a process aimed at finding mutually acceptable solutions to disagreements in a way that preserves relationships. A key element in this approach is the use of "I" statements, which allow individuals to express their own feelings and needs without blaming or attacking the other person. This technique encourages open communication and reduces defensiveness, making it easier for both parties to understand each other's perspectives and work together toward a peaceful and satisfying resolution.

180. (D) Authoritative.
The authoritative parenting style is characterized by a balance of high expectations and high responsiveness. These parents set firm and consistent limits for their children but are also warm, supportive, and open to their child's perspective. By providing clear guidance within a nurturing relationship, authoritative parents help their children develop self-regulation, social competence, and high self-esteem. This style is consistently identified in developmental psychology as the most effective approach for raising well-adjusted and independent individuals.

181. (B) 1, 2, and 3 only.
Family studies is a multidimensional field that examines the internal dynamics and external roles of the family unit. Central themes include understanding families in crisis, the application of various family therapy models to improve functioning, and the implementation of social initiatives for child development. While families are affected by government policies, the study of their role in national politics is generally considered a separate area within political science rather than a core focus of the family studies discipline.

182. (B) Gender equality and an improved status for women.
Gender stereotyping involves assigning fixed and oversimplified characteristics to individuals based on their sex. This practice serves as a significant barrier to achieving gender equality, as it limits the opportunities and roles available to women and men. By reinforcing traditional expectations, stereotypes hinder an individual's ability to develop their full potential and contribute to their community. Overcoming these biases is essential for improving the status of women and creating a more just and equitable society where everyone is treated with dignity.

183. (D) Geriatric care planning.
Guidance and counseling for a young couple about to be married focus on building a strong foundation for their new relationship and life together. Key topics typically include developing communication skills, financial planning, and learning effective conflict resolution strategies. While important later in life, planning for the care of the elderly is not usually a primary concern at the start of a marriage. The focus remains on addressing the immediate developmental tasks and potential challenges associated with forming a new family unit.

184. (A) social.
The World Health Organization defines health as a state of complete physical, mental, and social well-being, rather than merely the absence of disease or infirmity. This holistic definition recognizes that an individual's health is influenced not only by their biological state and mental stability but also by the quality of their social relationships and their environment. Promoting health requires a comprehensive approach that addresses all three of these interconnected dimensions throughout every stage of the life span.

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These dynamics are influenced by various factors, including individual personalities, cultural background, and life events. Understanding family dynamics is essential for identifying both the strengths and the dysfunctional patterns within a family system to promote healthier and more supportive interactions.

157. (C) Integrated Child Development Services (ICDS).
Integrated Child Development Services is a flagship family welfare program in India designed to support the development of young children and their mothers. It offers a coordinated package of services including supplementary nutrition, immunization, and pre-school education. By addressing the health and educational needs of children in their early years, the program aims to improve overall child well-being and mother's health. It represents a significant investment in the human capital of the nation and the strength of the family unit.

158. (C) Statement I is false, but Statement II is true.
Marital conflict is not inherently destructive; it is a natural part of any close relationship where two individuals have different perspectives and needs. While chronic and hostile conflict can be harmful, constructive conflict involves managing disagreements in a respectful and open manner. When partners communicate effectively and work together to find solutions, conflict can lead to a deeper understanding of each other and a stronger, more resilient relationship. Developing healthy conflict resolution skills is essential for marital satisfaction and stability.

159. (A) High warmth and high control.
The authoritative parenting style is characterized by a high degree of emotional warmth and responsiveness combined with high, but fair, levels of control and expectations. These parents set clear boundaries and consistent rules but also explain the reasoning behind them and listen to their child's perspective. This balanced approach provides children with both the security of structure and the support of a nurturing relationship. Authoritative parenting is consistently linked to positive developmental outcomes, including high self-esteem and social competence.

160. (B) P-3, Q-4, R-2, S-1.
Legal instruments and international treaties provide the framework for protecting human rights and family well-being. The Universal Declaration of Human Rights establishes general principles for all, while the Convention on the Rights of the Child focuses on specific protections for children. The Convention on the Elimination of All Forms of Discrimination Against Women aims to ensure gender equality. In India, the Protection of Women from Domestic Violence Act provides specific legal remedies for victims of abuse within domestic relationships.

161. (B) The birth of the first child to a married couple.
A single-parent family is defined by a structure where one adult lives with and has primary responsibility for dependent children. This situation can result from several life events, including the divorce of parents, the death of one parent, or an individual choosing to raise a child alone without marrying. In contrast, the birth of a first child to a married couple creates a nuclear family unit. Understanding these different family forms is essential for providing appropriate social and economic support for all households.

162. (A) Identifying and altering dysfunctional patterns of interaction.
A core activity in family therapy is examining the patterns of communication and interaction that define the family system. The therapist works with family members to identify dysfunctional dynamics that may be contributing to conflict or emotional distress. By bringing these patterns to light, the therapy aims to help the family develop more healthy and supportive ways of relating to one other. This systemic approach focuses on improving the overall functioning of the entire family group rather than just an individual.

163. (C) 'Sex' is biological, while 'gender' is a social construct.
In the study of human identity and social structure, it is essential to distinguish between sex and gender. Sex refers to the biological and physiological characteristics that define males and females, such as chromosomes and reproductive organs. Gender, on the other hand, is a social construct that encompasses the roles, behaviors, and expectations that a society considers appropriate for men and women. Recognizing

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192. (B) Situational or external crisis.
A situational or external crisis arises from sudden and unanticipated events that occur outside the family system but have a major impact on its functioning. Examples include natural disasters, sudden job loss, or a serious accident. These events create an immediate state of disequilibrium as the family's usual coping mechanisms are overwhelmed. Resolving such a crisis requires the family to mobilize new resources and adapt to their changed circumstances, often with the help of external support networks.

193. (B) Gender equality.
Gender equality is the principle that all individuals, regardless of their sex, should have equal rights, responsibilities, and opportunities in all areas of life. This includes equal access to education, healthcare, economic participation, and decision-making power. Achieving gender equality requires overcoming traditional stereotypes and discriminatory practices that limit the potential of both women and men. It is a fundamental human rights issue and a key driver of social and economic progress, ensuring that everyone can contribute to their community and society.

194. (A) Guidance and counseling for life transitions.
Major life events, such as the departure of the last child from the home, can lead to significant emotional adjustment for parents. This "empty nest" transition may cause feelings of loss, loneliness, or a lack of purpose for some individuals. Guidance and counseling for life transitions provide a supportive environment for parents to navigate these changes, redefine their roles, and explore new interests. These services help individuals adapt to their shifting family dynamics and maintain their mental and emotional well-being.

195. (B) 1, 2, 4, and 5 only.
The family serves as the primary context for shaping the health and well-being of its members throughout the entire life span. Family health behaviors, a supportive environment, and genetic predispositions all play significant roles in individual outcomes. Furthermore, families are the main setting for health education in early life, establishing habits that persist into adulthood. Because a family operates as a system, a health issue in one member inevitably affects the entire group, demonstrating the deep interdependence within the family unit.

196. (D) Stratified sampling.
Stratified sampling is a research technique used to ensure that a sample accurately reflects the diverse groups within a larger population. The process involves dividing the population into meaningful subgroups, or strata, based on specific characteristics such as age, gender, or income. A random sample is then selected from each of these subgroups. This method ensures that all relevant sections of the population are adequately represented in the study, increasing the validity and generalizability of the research findings.

197. (C) Individuality and togetherness.
A key dynamic in any healthy marriage is the ongoing effort to balance the needs for individual autonomy with the desire for emotional closeness and togetherness. Partners must navigate their separate identities, interests, and goals while maintaining a strong and supportive connection with each other. This balance is not fixed but changes over time as individuals grow and the relationship matures. Successfully managing this interplay is essential for fostering a satisfying and stable partnership that respects both the couple and the individuals within it.

198. (B) The developmental approach.
The developmental approach to family welfare focuses on empowering families by building their internal capacities and promoting self-reliance. Providing skill training to women to start small businesses is a classic example of this proactive strategy. By equipping individuals with the tools for economic independence, the approach aims to strengthen the entire family unit and prevent future financial difficulties. This empowerment-based model fosters long-term well-being and resilience, focusing on building strengths rather than just addressing existing problems or providing temporary relief.

199. (C) Statement I is false, but Statement II is true.
Domestic violence is not a private matter that should be hidden within the family; rather, it is recognized globally as a grave violation of human rights and a criminal offense. This shift

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while still respecting the unique identity of each individual.

256. (B) To build the family's capacity for growth and self-reliance
Developmental approaches in family welfare prioritize strengthening the internal capacity of the family unit. By focusing on growth and self-reliance, these programs enable families to contribute effectively to national progress as stable and productive citizens. Unlike reactive measures, these strategies are proactive, aiming to empower families to manage their own well-being and thrive within the broader social framework.

257. (D) The difficulty in ensuring programmes are accessible and culturally appropriate
Implementing family welfare initiatives involves navigating complex social challenges to ensure effectiveness. A primary hurdle is making certain that services are accessible to all families regardless of their location or status. Additionally, programs must be culturally sensitive and integrated with other social services to be relevant. Overcoming these barriers is essential for the sustainable improvement of family well-being.

258. (A) The state supports families, and in turn, strong families contribute to the nation's progress.
The relationship between family welfare and national development is mutually reinforcing. While the state provides necessary welfare programs and support systems, the family serves as the primary agent of socialization. By nurturing healthy, educated, and stable individuals, families provide the human capital necessary for national economic and social progress. This reciprocal bond ensures that both the state and family prosper.

259. (C) Preventive
Preventive approaches to family welfare are designed to forestall potential problems before they manifest. Educational campaigns focused on topics such as prenatal nutrition serve as proactive measures to ensure healthy outcomes for both mother and child. By addressing health or social issues early through awareness, these programs reduce the likelihood of future crises, marital discord, or developmental difficulties within the family.

260. (A) It functions as a primary agent for socialization and human capital formation.
Within the context of national development, the family unit serves as the fundamental institution for socialization. It is responsible for nurturing the next generation, instilling values, and developing the skills necessary for individuals to become productive workers and citizens. This process of human capital formation makes the family an indispensable contributor to the long-term social and economic stability of any nation.

261. (D) Domestic violence is a pattern of abuse, while marital disharmony is a state of persistent conflict and estrangement.
Domestic violence is defined by a specific pattern of abusive behaviors, including physical, emotional, and economic abuse, used to exert control. In contrast, marital disharmony refers to a broader state of ongoing conflict, poor communication, and emotional distance between partners. While disharmony can sometimes lead to violence, they are distinct conditions that both threaten the stability of the family unit.

262. (B) To address underlying issues and foster constructive ways to manage disputes
Effective conflict resolution aims to move beyond temporary truces to address the core issues causing strain. The ultimate goal is to improve communication patterns and re-establish mutual respect among family members. By equipping individuals with constructive ways to manage disagreements, these strategies prevent disputes from escalating into chronic disharmony or violence, thereby preserving the integrity and health of the family.

263. (C) a process that can escalate if not managed constructively.
Marital conflict should be viewed as a dynamic process rather than a singular, static event. Because disagreements are a natural part of relationships, the focus is on how they are managed. If left unaddressed or handled poorly, these conflicts can escalate over time. Therefore, intervention is necessary to transform destructive cycles into constructive interactions that maintain the stability of the relationship.

264. (D) Social isolation

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information. Once organized, the data is tabulated and presented in structured formats. Finally, both descriptive and inferential statistics are applied to analyze the findings and draw meaningful conclusions. These steps ensure that the research is rigorous and results are valid.

207. (A) Monogamy.
Monogamy is a form of marriage characterized by a union between two individuals, typically one man and one woman, at any given time. This is the most common form of marriage worldwide and is based on a commitment to a single partner. While some societies allow for multiple partners through polygamy, monogamy remains a central social institution in many cultures. It establishes a clear structure for the family unit and provides a foundation for the legal and social rights and responsibilities of the partners.

208. (B) Enhance quality of life and well-being of families.
The primary and ultimate goal of all family welfare programs is to improve the overall quality of life and enhance the well-being of families within a society. These initiatives aim to provide support across various dimensions, including health, nutrition, education, and social protection. By strengthening family functioning and promoting a supportive environment, these programs help families become more resilient and self-reliant. The focus is on ensuring that all family members can live healthy, safe, and productive lives in a just and equitable society.

209. (B) Compromising.
Compromising is a conflict resolution style characterized by a moderate level of both assertiveness and cooperation. In this approach, each party involved makes some concessions or gives up something to reach a mutually acceptable agreement. It is often described as a "no-win, no-lose" situation because while both sides get part of what they want, neither gets everything. This approach can be useful for finding quick solutions to moderate conflicts where both parties are willing to be flexible to reach a settlement.

210. (A) Authoritarian.
The authoritarian parenting style is characterized by high levels of control and low levels of warmth or responsiveness. These parents set strict and rigid rules, expect blind obedience, and often use punishment to enforce compliance. They do not typically explain the reasoning behind their rules or consider their child's perspective. This style can lead to children who are obedient but may have lower self-esteem and struggle with social skills and independent decision-making. It contrasts with the more balanced and supportive authoritative parenting style.

211. (C) Severe, unresolved conflict and domestic violence.
Family disorganization is a process where the established roles and structural ties within a household break down, often leading to instability and dissolution. Severe, unresolved conflict and the presence of domestic violence are powerful factors that frequently lead to this state. Chronic hostility and fear impair a family's ability to function as a supportive unit and can cause profound emotional and physical harm to all members. Resolving these issues is critical for ensuring the safety and well-being of the family and preventing disorganization.

212. (D) Stabilizing the situation and restoring equilibrium.
When a family is in the midst of a crisis, their usual ways of coping are overwhelmed, leading to a state of acute disequilibrium and high stress. The initial focus of therapy in these situations is on stabilizing the family and restoring a sense of balance. The therapist works with the family to manage the immediate challenge, identify existing resources, and develop new coping strategies. By focusing on stabilization first, therapy helps the family regain enough stability to then address deeper underlying issues.

213. (C) Statement I is false, but Statement II is true.
Although often discussed separately, the rights and well-being of women and children are deeply interconnected. In many contexts, the empowerment and safety of women are directly linked to the protection and healthy development of their children. When women have access to education, healthcare, and economic opportunity, they are better able to nurture and support their children. Recognizing these links is essential for developing comprehensive social policies that

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228. (D) Cultural and social barriers to accepting services.
A major challenge for family welfare programs in India is the presence of deep-seated cultural and social barriers that can prevent individuals from accepting or utilizing available services. These barriers can include stigma associated with certain issues, traditional beliefs that conflict with modern healthcare or education, and a lack of awareness about the programs. Overcoming these obstacles requires sensitive outreach, community engagement, and a deep understanding of the local context to ensure that services are both accessible and culturally appropriate for those who need them most.

229. (C) Accommodating.
Accommodating is a conflict resolution style characterized by a high level of cooperation and a low level of assertiveness. In this approach, an individual chooses to neglect their own concerns and needs to satisfy the concerns of the other person. This can be a useful strategy for maintaining harmony or when the issue is more important to the other party. However, chronic use of an accommodating style can lead to feelings of resentment and an imbalance of power in a relationship or family system.

230. (B) High warmth, low control.
The permissive parenting style is characterized by a high degree of emotional warmth and responsiveness but a low level of control or expectations for behavior. These parents are often very nurturing and avoid confrontation, setting few rules or boundaries for their children. While the relationship is positive, children of permissive parents may struggle with self-regulation and have difficulty following rules in other settings because they have not learned to manage their behavior within a structured environment. This style contrasts with both authoritarian and authoritative parenting.

231. (D) A family where roles are unclear and members feel disconnected.
Family disorganization is best described as a state where the established structures and functional roles of the household are no longer operating effectively. In such a family, roles may be unclear or inconsistent, and members often feel emotionally disconnected from one another. This breakdown of interaction patterns and collective purpose leads to significant instability and conflict within the system. While families can often reorganize into new and healthy forms, the period of disorganization is characterized by a failure to meet the emotional and social needs of its members.

232. (A) Maintain sense of self while remaining emotionally connected.
Differentiation of self is a central concept in Bowenian family therapy, referring to an individual's ability to maintain a clear sense of their own identity and values while staying emotionally connected to their family of origin. A person with high differentiation can manage their emotional reactivity and function independently, even in stressful family situations. This skill allows for healthier relationships, as individuals are less likely to be overwhelmed by the family's emotional processes. Promoting differentiation helps to reduce conflict and improve overall functioning within the family system.

233. (C) Statement I is false, but Statement II is true.
Gender roles are not biologically determined or universal; instead, they are socially and culturally constructed norms of behavior that vary significantly across different societies and change over time. These roles define the specific tasks, attributes, and expectations that a particular culture considers appropriate for men and women. Understanding the social construction of gender is essential for analyzing how these expectations influence individual opportunities and societal power dynamics. Promoting gender equality requires challenging traditional roles that limit the potential of both women and men.

234. (A) Caregiver burnout.
Caregiver burnout is a state of profound emotional, physical, and mental exhaustion resulting from the intense and long-term demands of caring for another person. This condition often occurs when caregivers neglect their own well-being to meet the needs of a loved one with a chronic illness or disability. Symptoms can include fatigue, irritability, and a sense of hopelessness. Addressing caregiver burnout through guidance, counseling, and social support is essential for maintaining the health of the caregiver and

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framework for supporting the healthy growth of children and the well-being of the family unit.

221. (C) Feelings of loss, divided loyalty, and self-blame.
Family disorganization due to divorce can have significant psychological impacts on children as they navigate the breakdown of their primary support system. Common experiences include a profound sense of loss, intense feelings of divided loyalty between their parents, and sometimes a tendency toward self-blame for the dissolution of the marriage. These emotional challenges can affect their overall well-being and development. Providing children with support and clear communication during these transitions is essential for helping them adapt and maintain healthy relationships in the future.

222. (A) 1, 2, 3, and 4 only.
Families may seek therapy for several reasons related to improving their interaction patterns and managing stress. Common motives include frequent and intense conflict, concerns about a child's behavioral problems, or the need to cope with a major life transition or trauma. Families also use therapy to enhance their communication and problem-solving skills. While a therapist helps facilitate discussions, their role is not to decide who is right or wrong, but to help the entire system find healthier and more supportive ways of functioning.

223. (A) Economic rights.
The denial of inheritance rights to daughters in some cultures is a clear violation of their economic rights, which include the right to own and inherit property on an equal basis with men. This discriminatory practice limits women's financial autonomy and their ability to acquire resources, reinforcing gender inequality. International human rights law, including the Convention on the Elimination of All Forms of Discrimination Against Women, asserts that women should have equal rights with men in all matters related to property and inheritance.

224. (B) The ability to listen with empathy.
A key skill for any counselor working with individuals or families across the life span is the ability to listen with empathy. Empathic listening involves fully focusing on the client's experience and showing a genuine understanding of their feelings and perspective without judgment. This creates a safe and supportive environment that is essential for building a therapeutic relationship and facilitating personal growth. By being truly heard and understood, clients are better able to explore their situations and find their own insights and solutions.

225. (A) Both A and R are true and R is the correct explanation of A.
The World Health Organization provides a comprehensive definition of health as a state of complete physical, mental, and social well-being. This perspective emphasizes that health is much more than simply the absence of disease or infirmity. It is a multidimensional concept that recognizes the interdependence of a person's biological state, psychological stability, and the quality of their social relationships. Promoting health requires a holistic approach that addresses all of these areas throughout every stage of development across the entire life span.

226. (A) A subset of the population selected to represent the whole.
In the context of research, a sample is a smaller subset of a larger population that is selected for actual investigation. Because it is often impossible or impractical to study an entire population, researchers use a sample to gather information and make generalizations about the larger group. For the findings to be valid, the sample must be chosen in a way that it accurately represents the characteristics of the whole population. Statistical methods are then used to draw conclusions from the sample data.

227. (C) Matrilocal.
Matrilocal residence is a social pattern where a newly married couple lives with or near the wife's family. This practice is common in some cultures and is often associated with matrilineal descent systems, where kinship and inheritance are traced through the female line. Matrilocal arrangements can provide significant support for the wife and can influence the power dynamics within the family and the wider community. It contrasts with patrilocal residence, where the couple lives with the husband's family, or neolocal residence, where they establish a separate household.

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adaptation, but disorganization focuses on the breakdown of roles, while a crisis emphasizes the inability of existing resources to meet an immediate demand.

242. (A) Improve communication and change dysfunctional interaction patterns.
A key and universal goal across all models of family therapy is to improve communication and identify and change the dysfunctional patterns of interaction that contribute to conflict or distress. By viewing individuals within the context of their family system, therapists help members understand how their behaviors affect each other. The goal is to foster a more supportive and healthy environment that allows the family to resolve problems and function more effectively as a unit. This systemic approach aims for lasting change by improving the entire group's interaction.

243. (C) 1948.
The Universal Declaration of Human Rights was adopted by the United Nations General Assembly on December 10, 1948. This landmark document was the first to establish a comprehensive global standard for the protection of fundamental human rights for all people, regardless of their nationality, sex, or race. By providing a universal framework for justice, dignity, and equality, the UDHR has fundamentally shaped international law and the modern understanding of human rights, influencing countless national constitutions and international treaties over the past several decades.

244. (D) Sandwich generation.
The "sandwich generation" refers to adults who are "sandwiched" between the competing demands of caring for two different generations at the same time. These individuals are simultaneously providing support and care for their own young or adolescent children while also managing the needs of their aging parents. This dual responsibility can lead to significant physical, emotional, and financial strain. As life expectancy increases and people have children later in life, the number of individuals in the sandwich generation continues to grow, requiring enhanced social support systems.

245. (A) 3, 2, 1, 4.
A systematic research process follows a specific chronological order to ensure the validity and reliability of the findings. The process begins with defining a clear research problem or question. Once identified, the researcher moves to the stage of data collection using appropriate methods. The collected information is then organized and processed through coding and tabulation. Finally, the data is analyzed and interpreted to draw meaningful conclusions and address the original research problem. This structured approach is essential for conducting rigorous scientific investigation.

246. (B) Neolocal.
In family and kinship studies, it is important to distinguish between forms of marriage and residence patterns. Monogamy, polygamy, and levirate are all types of marriage defined by the number of partners or specific cultural rules for choosing a spouse. Neolocal, however, refers to a residence pattern where a newly married couple establishes a separate household away from both sets of parents. Understanding these different categories is essential for analyzing how societies organize domestic life and define the relationships and obligations between family members.

247. (D) A persistent lack of emotional connection and conflict.
Marital disharmony is best characterized as a long-term state of discord and a chronic failure to adjust within a marriage. This condition goes beyond temporary disagreements, representing a deep and persistent lack of emotional connection and cooperation between partners. Such a state of persistent conflict creates a stressful and unstable environment that can harm the well-being of the couple and their children. Resolving disharmony typically requires a significant change in interaction patterns and often involves professional counseling to help the partners rebuild their relationship.

248. (A) Designed to empower parents with knowledge and skills.
The most crucial aspect of parent education is its focus on empowering caregivers by providing them with evidence-based knowledge and practical skills for child-rearing. These programs aim to increase parents' understanding of child

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ensuring they can continue to provide effective care.

235. (D) Later Life / Old Age.
The transition from professional work to retirement is a major life event that primarily affects well-being during the stage of later life or old age. This shift involves significant changes in daily routine, social interactions, and personal identity as individuals move away from their careers. Successfully adapting to retirement requires redefining one's sense of purpose and finding new interests and social connections. Providing support for this transition is essential for maintaining mental health and a high quality of life for older adults within their families and communities.

236. (B) Independent variable.
In research studying the relationship between two variables, the independent variable is the factor that is presumed to be the cause of any changes in the outcome. In an investigation of how study time affects exam scores, 'hours of study' is the independent variable because it is the factor being examined to see its impact. The resulting 'exam scores' are the dependent variable, as they are expected to change based on the study time. Correctly identifying these roles is essential for designing valid research and interpreting the findings.

237. (C) Predictable stages and developmental tasks a family goes through.
The family life cycle is a theoretical framework used to describe the predictable stages and developmental tasks that families typically go through over time. This concept identifies transitions such as marriage, the birth of children, navigating the adolescent years, launching adult children, and adapting to later life. Each stage presents unique challenges and requires adjustments in family roles and interaction patterns. Understanding the family life cycle helps in analyzing how families change and adapt to the diverse needs of their members as they move through different stages.

238. (D) The family is the fundamental unit that nurtures human capital.
The family plays an essential role in national development by acting as the primary social unit that nurtures and develops human capital. By providing for the health, nutrition, and early education of its members, the family prepares individuals to become productive and skilled citizens who can contribute to the nation's economic and social progress. This role of the family in shaping the character and abilities of the future workforce is a critical driver of sustainable growth and stability in any society.

239. (A) Any woman who is or has been in a domestic relationship.
The Protection of Women from Domestic Violence Act provides comprehensive legal protection from abuse to any woman who is or has been in a domestic relationship. This includes relationships through marriage, blood, adoption, or even living together in a joint family. The act is inclusive and recognizes that domestic violence can occur in various settings and is not limited only to married women. By providing a broad definition of domestic relationships, the law aims to ensure that all women facing abuse have access to legal remedies and protection.

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240. (B) 2, 3, and 4 only.
Positive parenting is an approach to child-rearing based on principles of respect, warmth, and proactive guidance. Key elements include creating a safe and engaging environment for the child, maintaining realistic expectations for their development, and using assertive discipline with clear and respectful communication. Harsh physical punishment and ignoring a child's emotional needs are inconsistent with this model. By focusing on building a strong relationship and teaching self-regulation, positive parenting helps children develop the emotional and social skills necessary for healthy growth and well-being.

241. (B) Disorganization refers to breakdown of roles, while a crisis overwhelms coping.
Although related, family disorganization and family crisis are distinct sociological concepts. Family disorganization describes a state where the traditional structure and functional roles within a household are breaking down. In contrast, a family crisis is an acute state of disruption where the family's usual problem-solving and coping mechanisms are completely overwhelmed by a particular challenge. Both situations lead to instability and require

in perspective acknowledges that everyone has a right to live a life free from fear and abuse. Legal interventions, such as protection orders and criminal penalties, are essential for protecting victims and holding perpetrators accountable. Addressing domestic violence as a public issue is crucial for ensuring the safety and dignity of all individuals.

200. (A) Self-esteem, resilience, and empathy.
Positive parenting is a nurturing approach designed to foster healthy emotional and social development in children. By building a warm, respectful relationship and using non-violent discipline, parents help their children develop high self-esteem and a sense of personal worth. This model also emphasizes building resilience to handle life's challenges and empathy for others. The goal is to raise well-adjusted, independent, and socially responsible individuals who are equipped with the emotional intelligence necessary for a satisfying and successful life.

201. (C) It is a process that involves the breakdown of family roles.
Family disorganization is a sociological process that describes the gradual or sudden breakdown of the established structure and functional roles within a household. This state is characterized by a failure of members to fulfill their expected responsibilities and a disruption of the interaction patterns that maintain family stability. While families can often reorganize into new and healthy forms, the period of disorganization involves significant stress and instability. Understanding this process is essential for providing effective support to families facing major transitions.

202. (A) Solution-Focused Brief Therapy.
Solution-focused brief therapy is a goal-oriented therapeutic approach that focuses on a client's strengths and the future rather than past problems. A key technique is the "miracle question," where the therapist asks the family to imagine that their problem has been magically solved overnight. By describing what would be different, the family can identify their desired goals and the small steps needed to achieve them. this approach empowers the family to find their own solutions and initiate positive change efficiently.

203. (D) The number of public holidays in a country.
The status of women is a comprehensive concept that reflects their overall position and degree of equality within a society. It is measured through several dimensions, including their access to education, economic opportunity, and political empowerment. These factors together indicate how much influence and autonomy women have in their own lives and the broader community. While national holidays are a part of a country's culture, they do not serve as an indicator of the legal or social status of women.

204. (A) Both A and R are true and R is the correct explanation of A.
The need for guidance and counseling persists throughout the entire life span as individuals face a continuous series of developmental tasks and transitions. Each stage of life, from childhood through old age, brings unique challenges, such as forming an identity in adolescence, managing family and career in adulthood, and adapting to retirement in later years. Professional support helps individuals navigate these shifts and manage the associated stress. Counseling provides a valuable resource for maintaining mental health and achieving personal growth at every age.

205. (C) Managing the onset of chronic conditions like hypertension.
Health and well-being in middle adulthood are often characterized by a shift in focus toward managing the early stages of chronic health conditions. During this period, individuals may experience the onset of issues like hypertension, high cholesterol, or early signs of other age-related physiological changes. Maintaining a healthy lifestyle and regular check-ups become increasingly important for preventing long-term complications. This stage also involves managing the stress of career and family responsibilities, which can significantly influence overall mental and physical well-being.

206. (D) 1, 2, 3, and 4.
Research methods in family studies involve a series of systematic steps used to investigate and understand family dynamics and well-being. This process begins with data collection using tools like surveys and interviews, followed by the classification and coding of the gathered

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development, effective communication, and positive discipline strategies. By building their capacity and confidence, parent education helps caregivers create more nurturing and supportive environments for their children's growth. This empowerment-based approach respects parental authority while providing valuable tools for fostering healthy development and improving the overall well-being of the family unit.

249. (C) Narrative Therapy - Identifying the 'Identified Patient'.
Different models of family therapy are characterized by specific core concepts and techniques. Bowenian therapy focuses on the differentiation of self, structural therapy emphasizes family boundaries and hierarchy, and strategic therapy uses interventions like paradoxical directives. However, narrative therapy is based on the idea of re-authoring life stories and does not typically use the term "identified patient." This term is more commonly associated with systemic family therapy models that view one member's symptoms as reflecting dysfunctional patterns within the entire family system.

250. (C) Statement I is false, but Statement II is true.
Promotion of women's rights is not about granting special or superior rights to women; rather, it is a fundamental human rights effort aimed at correcting historical and systemic disadvantages to achieve equality. Women are human beings entitled to the same universal rights as men, but they often face unique forms of discrimination and violence. Addressing these specific challenges through targeted advocacy and legal protection is essential for ensuring that women can exercise their rights on an equal basis with men and achieve full gender equality.

251. (B) Effective communication among family members
In family systems, effective communication acts as the foundational element necessary for healthy functioning. It facilitates the expression of needs, the resolution of internal conflicts, and the provision of mutual support between members. Without this bedrock, families often experience significant misunderstandings, resulting in emotional distance and a breakdown of the overall relational structure and essential family stability.

252. (A) They are influenced by both internal factors and external conditions.
Relationships within a family unit are complex systems shaped by various factors. Internal elements, such as individual personality traits, power distribution, and communication patterns, interact with external societal pressures, including economic conditions and cultural norms. This confluence of influences ensures that family dynamics are continuously evolving rather than remaining static, as they adapt to both private and public environments.

253. (C) adapt to changes while preserving cohesion.
Family resilience is measured by the ability to navigate various transitions and crises successfully. Whether facing normative shifts, like children leaving the home, or unexpected non-normative crises, healthy families demonstrate strength by adapting their roles and responsibilities. This adaptability allows the family to maintain a sense of internal cohesion and support, ensuring long-term stability and continued relational health.

254. (D) the interconnectedness of members and how one person's actions impact the group.
Adopting a systemic perspective means viewing the family as an interconnected whole rather than a collection of isolated individuals. This approach emphasizes that the behavior of any single member inevitably affects every other person within the system. Understanding these circular interactions and relationships is essential for grasping how the family unit functions, maintains stability, or undergoes change over time.

255. (C) The interplay between intimacy and autonomy
A critical dynamic in healthy family systems involves balancing the opposing needs for closeness and individual space. Members must navigate the interplay between intimacy, which fosters connection and mutual support, and autonomy, which allows for personal growth and independence. Successfully managing these two needs ensures that the family remains cohesive

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effectively support the well-being of the entire family unit and promote gender equality.

214. (B) Caregiver counseling.
Caregiver counseling is a specialized form of therapy designed to support individuals who are providing long-term care for family members with disabilities, chronic illnesses, or terminal conditions. The role of a caregiver can be physically and emotionally exhausting, often leading to significant stress and burnout. Counseling provides a supportive space for caregivers to address these feelings, develop coping strategies, and navigate the complex demands of their roles. By supporting the caregiver, these services help maintain their well-being and the quality of care provided.

215. (D) Infancy.
Public health campaigns that promote vaccinations for infants are critical initiatives focused on well-being during the very first stage of the life span. Infancy is a period of rapid development and high vulnerability, making protection from infectious diseases essential for survival and a healthy start in life. These programs aim to provide children with a strong foundation for their future development by addressing foundational health needs. This early intervention is a key component of a comprehensive approach to health and well-being across the entire lifespan.

216. (A) Control group.
In experimental research, a control group is a set of participants who do not receive the specific treatment or intervention being studied. This group serves as a baseline that allows researchers to compare the outcomes of the experimental group, which does receive the treatment. By using a control group, researchers can determine if any changes observed in the experimental group are actually caused by the intervention rather than other external factors. This method is essential for establishing causal relationships in scientific research.

217. (C) Reconstituted or blended family.
A reconstituted or blended family is a modern family structure formed when individuals who have children from previous relationships enter a new marriage or partnership. This process brings together adults and children into a new household, requiring significant adjustment as they navigate new roles and relationships. These families are increasingly common and reflect broader societal changes in marriage and divorce patterns. While they offer a new support network, they also face unique challenges in integrating different family histories and creating a cohesive unit.

218. (A) Remedial.
The clinical approach to family welfare is primarily remedial, focusing on providing interventions and treatments for families already experiencing difficulties or dysfunctions. This perspective aims to address specific problems such as marital discord, behavioral issues in children, or mental health struggles within the family. The goal is to restore the family to a healthy state of functioning through therapy or targeted support services. This reactive strategy is essential for meeting the needs of families facing acute challenges that require professional attention.

219. (D) Active listening and empathy.
Healthy conflict resolution in a marriage is characterized by a commitment to open communication and a willingness to understand the other person's perspective. Active listening, which involves fully focusing on and responding to what the other person is saying, is a fundamental skill in this process. Empathy, or the ability to share and understand the partner's feelings, helps to reduce hostility and build connection even during a disagreement. These constructive behaviors allow couples to find mutually acceptable solutions and strengthen their relationship.

220. (B) P-3, Q-4, R-2, S-1.
Parenting concepts encompass various approaches to child-rearing and family support. Authoritative parenting is a style that balances high warmth with clear boundaries. Positive parenting emphasizes a strong foundation for discipline based on respect. Community education works to create a supportive social environment for all families, while parent education refers to formal programs designed to teach parenting skills and child development knowledge. Together, these concepts provide a

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Domestic violence encompasses several abusive behaviors, including physical, emotional, sexual, and economic abuse. While social isolation is often used as a tactic by abusers to control their victims, it is not explicitly categorized alongside the main types of abuse mentioned in the provided text. Understanding these specific categories is vital for identifying violations of human rights and protecting vulnerable family members.

265. (A) Persistent marital disharmony can be a risk factor or precursor to violence.
There is a significant link between the quality of a marital relationship and the risk of abuse. Persistent marital disharmony, characterized by poor communication and constant conflict, often serves as a precursor or risk factor for the development of domestic violence. Recognizing this connection allows for earlier interventions aimed at resolving conflict before it escalates into a pattern of severe abusive behavior.

266. (B) Parenting is a learned behavior that can be refined through education.
Parent education is built on the fundamental belief that child-rearing skills are not purely instinctive but are learned behaviors. Because these skills can be acquired and improved, education serves as a proactive tool to enhance parenting practices. Providing parents with evidence-based knowledge and support empowers them to promote better well-being for their children and more stable, positive home environments.

267. (B) A focus on guidance and non-violent discipline
Positive parenting is defined by a shift away from punitive control toward an approach rooted in mutual respect. Key characteristics include providing consistent guidance, setting clear limits, and utilizing non-violent discipline methods. These techniques are designed to teach children self-control and responsibility while respecting their developmental stage. This method fosters a healthy parent-child relationship based on encouragement rather than fear or coercion.

268. (A) creating a supportive social ecosystem can reinforce positive parenting.
Community education acknowledges that parenting does not occur in a vacuum but is influenced by the surrounding social environment. By engaging schools and healthcare providers, these initiatives create a supportive ecosystem for families. This collective approach helps normalize seeking help and ensures that consistent, evidence-based advice is available. Ultimately, a supportive community reinforces the positive child-rearing skills learned by individual parents.

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269. (C) fostering a child's self-esteem and empathy.
The objectives of positive parenting extend significantly beyond the simple management of a child's misbehavior. This approach is designed to nurture the holistic development of the child, specifically focusing on fostering high self-esteem, empathy, and cognitive growth. By using encouragement and guidance, parents help children develop the emotional and social skills necessary for healthy functioning and positive relationships throughout life.

270. (D) To create a community-wide culture that supports effective parenting
Involving schools, healthcare professionals, and community leaders in parent education aims to build a culture that values effective child-rearing. This collective effort ensures that positive parenting practices are normalized and supported across the entire community. By disseminating consistent advice and encouraging help-seeking behavior, these programs create a sustainable environment where every family has access to the support needed to thrive.

271. (C) The disruption of the family unit's roles, relationships, and functions
Family disorganization is specifically defined as the breakdown of the family as a cohesive social unit. This process involves the significant disruption of established roles, interpersonal relationships, and essential family functions. It often stems from stressors like chronic conflict, economic hardship, or the loss of a parent. Understanding this concept requires looking at the internal breakdown of the family's structural integrity.

272. (B) an alternative family structure with unique strengths and challenges.
Rather than viewing single-parent families solely through a lens of deficiency, they should

environment, which ultimately promotes the well-being of everyone involved.

289. (D) Navigating identity formation and career choices
During the developmental stage of adolescence, guidance and counseling focus on the unique challenges faced by young people. This often includes helping them navigate the complexities of identity formation and making informed career choices. By addressing these specific developmental needs, counseling supports adolescents as they transition toward adulthood, ensuring they have the tools necessary to make healthy decisions for their future.

290. (A) To provide emotional support and stress-management techniques
A specific and crucial goal of counseling for caregivers is to provide them with emotional support and practical stress-management techniques. These services help caregivers navigate the complex healthcare and social service systems while fostering personal resilience. By addressing the physical and emotional strain of their role, counseling helps prevent burnout and ensures that caregivers can continue to provide effective, high-quality support.

291. (C) As a holistic state of physical, mental, and social well-being
Health is defined holistically as more than just the absence of disease or physical illness. It encompasses a complete state of physical, mental, and social well-being. This multifaceted perspective recognizes that individual health is deeply influenced by the family environment, interpersonal relationships, and socioeconomic status. Understanding health as a dynamic state requires considering the various factors that contribute to a person's overall wellness.

292. (A) Mental health and risk-taking behaviors
During adolescence, health needs shift to reflect the unique developmental challenges of this period. Prominent concerns include mental health issues, the management of risk-taking behaviors, and reproductive health. These challenges require specific attention and support from both families and healthcare systems. Addressing these areas is essential for ensuring a healthy transition into adulthood and preventing long-term negative health outcomes for young people.

293. (D) It is a key influence on health behaviors and a buffer against stress.
The family unit plays an essential role in an individual's health across the entire life span. It serves as the primary source of care and a major influence on important health behaviors, such as diet and exercise. Furthermore, a supportive family acts as a vital buffer against external stress. These functions significantly enhance an individual's resilience and their ability to recover from illness.

294. (B) major source of stress and a risk factor for poor health.
A dysfunctional family environment can have a profound negative impact on the health of its members. Constant conflict or a lack of support can become a major source of chronic stress, which is a significant risk factor for poor physical and mental health outcomes. This underscores the importance of healthy family dynamics in promoting individual well-being and preventing the development of illness.

295. (C) The continuous interaction between individual development and family dynamics
A life-span perspective on health emphasizes the continuous interplay between individual development and the family system. This approach recognizes that health needs evolve from infancy through old age and are constantly influenced by family relationships and environments. By understanding this dynamic interaction, health promotion can be tailored to address the changing challenges individuals face at different stages of their lives within the family.

296. (D) To summarize and describe the basic features of the collected data
In research, descriptive statistics serve the essential purpose of summarizing and describing the primary features of a dataset. Measures such as the mean, median, and mode allow researchers to provide a clear and concise overview of the basic characteristics of their sample. This stage of analysis is crucial for understanding the data before moving on to broader inferences.

297. (A) Classification and coding

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guiding members to develop new, more effective ways of relating to one another, the therapist enables the family to restore stability. This process empowers the unit to navigate immediate crises and improve long-term relational health.

281. (A) To provide a universal standard for ensuring dignity and equality within families
The human rights framework provides a vital foundation for family studies by establishing universal standards for dignity and equality. This framework is essential for protecting vulnerable members, such as women and children, from marginalization. By promoting equity and justice for all individuals within the family unit, human rights ensure a healthy environment that supports the development and well-being of every family member.

282. (B) socially constructed expectations and behaviors assigned based on sex.
Gender roles are defined as expectations and behaviors that society constructs and assigns to individuals based on their sex. These are not biologically determined but are learned through social interaction and cultural norms. These roles often dictate the responsibilities and power dynamics within a family. Challenging restrictive roles is necessary for achieving gender equality and ensuring that all family members can participate fully.

283. (B) By limiting their access to education and perpetuating inequality
Restrictive gender roles negatively impact the status of women by creating barriers to essential opportunities. These socially constructed expectations can limit women's access to education, economic resources, and decision-making authority within both the family and the wider society. By constraining women's potential, these roles perpetuate cycles of inequality, making it difficult for women to achieve full social and economic participation.

284. (A) Seeing children as individuals with rights, not as parental property
Recognizing the rights of children requires a fundamental shift in perspective. Children are viewed as individuals with their own rights to protection, provision, and participation, rather than as the property of their parents. This view ensures children are safe from harm, have access to healthcare and education, and can voice their opinions in matters that affect their lives and general well-being.

285. (C) The fostering of equity, justice, and healthy development
When a family environment respects the human rights of every member, it creates a foundation of equity and justice. This atmosphere is essential for the healthy development of both children and adults. By ensuring that everyone is treated with dignity, regardless of their age or gender, the family fosters mutual respect and provides a supportive setting for individual growth and overall stability.

286. (D) It is a continuous process relevant across the entire life span.
Guidance and counseling are not limited to addressing acute crises or specific age groups. Instead, they represent a continuous supportive process that remains relevant throughout an individual's entire life span. From childhood social skills to adult mid-life transitions and elderly care, these services address evolving developmental needs. This broad scope ensures that support is available to individuals and families at every stage.

287. (C) Because caregivers often experience significant strain that can lead to burnout
Counseling for caregivers is vital because the role often involves immense physical, emotional, and financial strain. Whether caring for children, the elderly, or those with disabilities, caregivers are at a high risk of burnout. Burnout can compromise both the caregiver's health and the quality of care they provide. Therefore, providing them with emotional support and stress-management techniques is essential for their well-being.

288. (B) It also benefits the person receiving care by improving the caregiving environment.
Supporting a caregiver through guidance and counseling creates a positive ripple effect throughout the family unit. When a caregiver receives emotional support and learns stress-management techniques, they are better equipped to provide effective care. This indirectly benefits the person receiving care by ensuring a more stable, healthy, and supportive caregiving

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be recognized as an alternative family structure. This perspective acknowledges that while these families face specific challenges, such as financial strain or role overload, they also possess unique strengths. Understanding these evolving family forms requires examining how they adapt and demonstrate resilience in the face of various stressors.

273. (D) A high degree of closeness between parent and child
Single-parent families often develop unique internal strengths as they adapt to their structure. One prominent benefit is the development of a high degree of emotional closeness between the parent and the child. Additionally, children in these households may exhibit increased independence and responsibility. The absence of previous spousal conflict can also contribute to a more peaceful and supportive environment.

274. (A) The quality of relationships and support systems
The functionality of any family unit is not determined solely by its structure, such as whether it has one or two parents. Instead, the quality of internal relationships and the availability of external support systems are more critical determinants of success. A family that maintains strong, supportive bonds and utilizes available resources can function effectively and promote well-being, regardless of its form.

275. (C) the parent having to perform multiple roles and juggle many responsibilities.
Role overload is a significant challenge often faced by individuals in single-parent households. This occurs when one parent must single-handedly manage all the responsibilities typically shared by two people, including financial provision, household management, and child-rearing. Juggling these multiple, demanding roles can lead to significant stress and strain, highlighting the importance of supportive social networks to help alleviate the burden.

276. (A) The family's inability to cope with a stressor using its usual methods
A family enters a state of crisis when a stressful event or transition overwhelms its existing coping mechanisms. The defining characteristic is a state of disequilibrium where usual problem-solving strategies fail to restore stability. This can be caused by predictable life events or unexpected disasters. The focus is on the family's internal capacity to manage the stress rather than the event itself.

277. (D) It treats the family as a system and the entire unit as the client.
Family therapy is distinguished from individual therapy by its systemic approach. Rather than focusing on a single person in isolation, it views the entire family as an interconnected system. The whole family unit is treated as the client, with the goal of identifying and changing dysfunctional interaction patterns. This perspective recognizes that individual well-being is deeply tied to collective family dynamics.

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278. (B) a family crisis can negatively affect a child's emotional security.
Family therapy serves as a critical intervention for child development because family crises can profoundly impact a child's emotional security. A stable and supportive home environment is essential for healthy growth. By addressing dysfunctional dynamics and stabilizing the family unit during times of stress, therapy provides a foundation that protects the child's well-being and promotes their long-term positive development and resilience.

279. (C) To alter dysfunctional patterns of interaction among family members
The primary objective of family therapy is to improve overall functioning by altering the negative patterns of interaction between members. Therapists work with families to resolve conflicts, enhance communication, and solve persistent problems. By identifying dysfunctional cycles and developing more effective ways of relating, the therapy helps the family unit navigate crises and establish a healthier, more supportive foundation for all its members.

280. (D) The therapist facilitates the process of identifying patterns and developing new coping skills.
In family therapy, the therapist plays a facilitative role rather than a judgmental one. Their work involves helping the family identify dysfunctional patterns and harness existing strengths. By

Once data collection is complete, the research process moves to the organization of raw data for analysis. This involves classification, where data are sorted into meaningful categories based on specific properties. This is followed by coding, which assigns numerical or symbolic values to the data. These steps are necessary to prepare the information for subsequent tabulation and statistical analysis within the research framework.

298. (B) draw conclusions about a population from a sample.

Descriptive statistics are used to describe the features of a specific sample, while inferential statistics serve a different function. Inferential statistics allow researchers to make generalizations or draw conclusions about a larger population based on the data collected from the sample. This type of analysis is used to test hypotheses and determine whether findings are significant enough to apply beyond the immediate study group.

299. (B) To assign numerical or symbolic values to data for analysis

Coding is a critical step in the research process that involves assigning numerical or symbolic codes to collected data. This transformation of information facilitates both quantitative and qualitative analysis, making it easier to identify patterns and relationships. By organizing data into a standardized format, coding allows researchers to use various statistical tools to analyze their findings and draw meaningful conclusions from the study.

300. (A) tabulation.

Tabulation is the process of arranging coded data into tables or matrices to reveal patterns and relationships. For example, when a researcher creates a frequency table showing different parenting styles within a sample, they are performing tabulation. This organized presentation of data makes it easier to visualize the distribution of variables and provides a clear foundation for conducting further descriptive or inferential analysis.

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CHAPTER 09
Communication for Development

1. Which of the following best defines the nature of communication?
(A) A one-way, linear transmission of information from a sender to a passive receiver.
(B) A dynamic, two-way process of exchanging and understanding messages and ideas.
(C) A static, isolated event that occurs at a fixed and single point in time.
(D) The exclusive and restricted use of verbal language to convey specific messages.

2. Consider the following statements about the functions of communication.
Statement I : The primary function of communication is solely to inform and educate.
Statement II : Communication serves multiple functions, including persuasion, entertainment, social integration, and cultural promotion.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

3. Which of the following is an incorrect statement regarding the process of communication?
(A) The process begins with the encoding of a message by the sender.
(B) The channel is the medium through which the message is transmitted.
(C) Feedback is an optional and often unnecessary component of the process.
(D) The receiver decodes the message to interpret its meaning.

4. Which element is considered a barrier to communication that arises from the receiver's personal beliefs, values, and past experiences?
(A) Semantic barrier
(B) Physical barrier
(C) Mechanical barrier
(D) Psychological barrier

5. In the context of communication, what does 'perception' primarily refer to?
(A) The physical act of seeing or hearing a message within a specific environment.
(B) The sender's specific intention and purpose behind crafting a given message.
(C) The process of selecting, organizing, and interpreting sensory data for meaning.
(D) The technical and functional quality of the chosen communication channel used.

6. Persuasion in communication is best described as:
(A) The act of using pressure or force to make an individual accept a viewpoint.
(B) The process of influencing attitudes, beliefs, or behaviors through messages.
(C) The objective and neutral presentation of facts without any intent to influence.
(D) The simple and routine exchange of information between two or more people.

What is the most critical difference between sympathy and empathy in a communication context?
(A) Empathy is a calculated form of persuasion, while sympathy is a basic form of information.
(B) Sympathy is a learned professional skill, while empathy is an inherent personal trait.
(C) There is no significant difference between the two as the terms are fully interchangeable.
(D) Sympathy involves feeling sorry for others, while empathy involves sharing their feelings.

8. Communication that occurs between two individuals is classified as which level of communication?
(A) Interpersonal communication
(B) Intrapersonal communication
(C) Group communication
(D) Mass communication

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9. Which of the following is NOT a stage in the process of listening?
(A) Receiving
(B) Understanding
(C) Persuading
(D) Responding

10. Match the communication model with its key characteristic.
List I: (Model)
P. Lasswell's Model
Q. Shannon-Weaver Model
R. Schramm's Model
S. Berlo's SMCR Model
List II: (Characteristic)
1. Emphasizes the role of noise in the process
2. Focuses on the source, message, channel, and receiver's skills and attributes
3. Described as a linear sequence: "Who says what in which channel to whom with what effect?"
4. Introduces the concept of a shared field of experience
Codes:
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-4, R-1, S-3

11. According to Human Interaction theories, which concept focuses on how individuals use media to gratify their needs?
(A) Social Learning Theory
(B) Symbolic Interactionism
(C) Cognitive Dissonance Theory
(D) Uses and Gratifications Theory

12. The Agenda-Setting theory of mass communication posits that:
(A) Media directly tells the general public exactly what they should think.
(B) Media tells people what to think about by determining issue salience.
(C) Media has a minimal, indirect, and negligible effect on the target audience.
(D) The audience actively and independently sets the agenda for the media.

13. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Communication systems are deeply embedded within and reflective of a society's culture.
Reason (R) : Cultural norms, values, and languages shape the way messages are encoded, transmitted, and decoded.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

14. Which theory suggests that people learn new behaviors through observation of others, particularly through mass media?
(A) Cultivation Theory
(B) Dependency Theory
(C) Spiral of Silence Theory
(D) Social Learning Theory

15. In message design, what is the purpose of using a 'two-sided message' strategy?
(A) To acknowledge opposing views and refute them to increase credibility.
(B) To present only the specific arguments that support the communicator's position.
(C) To confuse the target audience by intentionally presenting conflicting information.
(D) To target two entirely different audiences simultaneously with the same message.

16. The concept of 'development' is best understood as:
(A) A singular focus on economic growth measured exclusively by Gross Domestic Product.
(B) A multi-dimensional process of change aimed at improving human well-being.
(C) A process strictly limited to the domains of industrialization and urbanization.
(D) The simple and direct transfer of technology from developed to developing nations.

17. Consider the following statements about indicators of development.
Statement I : The Human Development Index (HDI) is a composite statistic of life expectancy, education, and per capita income indicators.
Statement II : Indicators of development are

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exclusively economic, such as GDP and GNI per capita.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

18. Which of the following is a key characteristic of the 'Modernization' theory of development?
(A) It views development as a linear progression from 'traditional' to 'modern' society.
(B) It emphasizes endogenous, culturally specific paths to development.
(C) It critiques the role of international capital in creating underdevelopment.
(D) It prioritizes environmental sustainability over economic growth.

19. The "Dependency Theory" of development primarily argues that:
(A) Developing nations must rely on financial aid from developed nations to make any progress.
(B) All nations are mutually dependent and benefit in an equal manner from global trade.
(C) The underdevelopment of 'peripheral' nations results from economic exploitation.
(D) A country's development depends on its ability to modernize its existing political systems.

20. Consider the following statements about communication models for development:
(a) The 'Dominant Paradigm' emphasized a top-down, one-way flow of information from experts to the masses.
(b) Participatory models view communication as a horizontal, two-way dialogue.
(c) The 'Empowerment Model' focuses on enabling communities to identify and solve their own problems.
(d) All development communication models are universally applicable without modification.
Which of the above statements are correct?
(A) (a), (b), and (c)
(B) (b), (c), and (d)
(C) (a), (c), and (d)
(D) (a), (b), and (d)

21. What is the main focus of the 'Diffusion of Innovations' theory in the context of development communication?
(A) The technical process of creating new technologies in a controlled laboratory setting.
(B) The ethical and moral implications of rapid technological advancement in modern society.
(C) How new ideas, practices, and technologies spread through social systems.
(D) The role of government in mandating the adoption of new practices by the public.

22. A farmer who is skeptical and adopts a new agricultural technique only after most of his neighbors have successfully used it would be classified as a(n):
(A) Innovator
(B) Late Majority
(C) Early Adopter
(D) Laggard

23. The application of commercial marketing principles and techniques to promote social causes and influence behaviors that benefit individuals and society is known as:
(A) Corporate Advertising
(B) Public Relations
(C) Direct Selling
(D) Social Marketing

24. Which of the following is NOT a core component of the "4 Ps" of Social Marketing?
(A) Persuasion (the communication tactic used)
(B) Product (the desired behavior)
(C) Price (the cost or barriers to the behavior)
(D) Place (where the behavior is performed)

25. What is the fundamental need and importance of communication in development?
(A) To entertain the population and distract from developmental issues.
(B) To provide a platform for political advertising.
(C) To facilitate participation, raise awareness, and enable social change.
(D) To control information flow and suppress dissent.

26. 'Development Journalism' is best defined as:

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(A) In-depth, critical reporting on development processes, issues, and policies.
(B) Journalism that focuses only on reporting positive government achievements.
(C) Sensationalist reporting focused on instances of poverty and natural disaster.
(D) Journalism that is funded entirely by international and foreign aid agencies.

27. When writing for development for a radio broadcast, what is the most important consideration?
(A) Using complex vocabulary and long sentences.
(B) Focusing on visual elements to accompany the audio.
(C) Ensuring the script is at least 30 minutes long.
(D) Writing in a conversational, easy-to-understand style suitable for being heard.

28. Which of the following is a key challenge when writing about development for internet audiences?
(A) The inability to use multimedia content.
(B) The need to create engaging, concise, and shareable content for short attention spans.
(C) The slow speed of information dissemination.
(D) The exclusively academic nature of the audience.

29. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Addressing gender inequality is a critical concern of development communication.
Reason (R) : Communication interventions can challenge harmful stereotypes, promote female empowerment, and ensure women's voices are heard in development planning.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

30. In health communication, what is the primary goal of a campaign focused on preventive care?
(A) To treat individual patients who are already suffering from a sickness.
(B) To advertise the specific healthcare services of a particular hospital.
(C) To report on the latest medical research findings to the academic world.
(D) To encourage behaviors that reduce the risk of future illnesses.

31. Communication for environmental sustainability often aims to:
(A) Promote awareness of ecological issues and foster pro-environmental behaviors.
(B) Encourage limitless consumption of natural resources.
(C) Discredit scientific findings on climate change.
(D) Focus exclusively on industrial pollution, ignoring individual actions.

32. Which of the following represents a human rights-based approach to development communication?
(A) A top-down campaign that tells people exactly what is considered best for them.
(B) A process that emphasizes participation, non-discrimination, and accountability.
(C) A campaign that focuses on achieving economic benefits over individual freedoms.
(D) A strategy that intentionally withholds information from certain community groups.

33. Which of the following media is considered a key component of 'New Media for Development'?
(A) Traditional puppetry
(B) Mobile phones
(C) National television broadcasts
(D) Print newspapers

34. A development organization uses street theatre to raise awareness about child labor in a village. This is an example of using:
(A) Traditional media for development
(B) New media for development
(C) Mass media for advertising
(D) International media for advocacy

35. The concept of "Advocacy" in development communication involves:
(A) A neutral reporting of facts without taking

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any particular stance on an issue.
(B) A purely academic exercise of theorizing about the nature of social change.
(C) A strategic process of influencing decision-makers to support a specific cause.
(D) The commercial and for-profit promotion of various products and services.

36. Which theory is central to Behavior Change Communication (BCC) and suggests that an individual's readiness to act on a health issue is determined by their perceived susceptibility, severity, benefits, and barriers?
(A) Cultivation Theory
(B) Agenda-Setting Theory
(C) The Diffusion of Innovations Theory
(D) The Health Belief Model

37. What is a primary challenge in implementing Behavior Change Communication (BCC) programs?
(A) BCC programs are always inexpensive and simple to implement in any context.
(B) There is a complete lack of theoretical models to guide BCC interventions.
(C) Ingrained cultural norms and social behaviors can be resistant to change.
(D) BCC is only effective for short-term and very simple behavior changes.

38. The Transtheoretical Model (Stages of Change) is a key model in Behavior Change Communication. Which stage describes an individual who is intending to take action in the immediate future?
(A) Precontemplation
(B) Preparation
(C) Contemplation
(D) Action

39. A key advantage of using folk forms like puppetry and song for development communication is that they are:
(A) Easily scalable to a national mass audience.
(B) Technologically advanced and modern.
(C) Best suited for conveying complex statistical data.
(D) Culturally familiar, engaging, and can bypass literacy barriers.

40. Match the organization with its primary focus in development communication.
List I: (Organization)
P. UNESCO
Q. UNICEF
R. FAO
S. WHO
List II: (Primary Focus Area)
1. Health communication
2. Communication for agricultural and rural development
3. Communication for education, science, culture, and freedom of expression
4. Communication for children's rights and well-being
Codes:
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-2, S-1
(C) P-2, Q-1, R-4, S-3
(D) P-4, Q-3, R-1, S-2

41. What is the defining characteristic of a 'Community Radio' station in the context of development?
(A) It is owned and operated by a large and influential national media corporation.
(B) It broadcasts exclusively in English to reach a broad and national audience.
(C) It is operated by and for the community, focusing on local issues and content.
(D) It has a primary and central goal of generating maximum profit via advertising.

42. 'Participatory Video' as a development communication tool is best described as a process where:
(A) Community members learn to use video to tell their own stories and advocate.
(B) Professional filmmakers create high-budget documentaries about a local community.
(C) Videos are produced by the central government to be shown to local communities.
(D) Pre-recorded educational videos are distributed on a mass and national scale.

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43. Which of the following is an example of an international agency working for development communication?
(A) A State Information Department
(B) A local village council (Panchayat)

(C) A district-level NGO
(D) The World Bank

44. Which of the following organizations would be classified as a 'National' level agency involved in development communication in India?
(A) UNICEF India
(B) Prasar Bharati (which includes All India Radio and Doordarshan)
(C) The Ford Foundation
(D) A local Self-Help Group (SHG)

45. In research methods, a test that makes assumptions about the parameters (defining properties) of the population distribution(s) from which one's data are drawn is known as a:
(A) Non-parametric test
(B) Qualitative analysis
(C) Parametric test
(D) Descriptive statistic

46. Which of the following is an example of a non-parametric test?
(A) t-test
(B) ANOVA (Analysis of Variance)
(C) Pearson correlation coefficient
(D) Chi-square test

47. A researcher wants to compare the average scores of two independent groups to see if there is a statistically significant difference between them. Assuming the data meets the necessary assumptions, which parametric test would be most appropriate?
(A) Independent samples t-test
(B) Chi-square test
(C) Paired samples t-test
(D) Spearman's rank correlation

48. A key principle of communication states that communication is 'irreversible'. What does this imply?
(A) Once a message is sent, it can be completely erased from the receiver's memory.
(B) A communicated message, once received, cannot be taken back.
(C) Communication only flows in one direction.
(D) The meaning of a message never changes.

49. Consider the following statements about communication barriers.

Statement I : Semantic barriers arise from different meanings being assigned to the same words.
Statement II : Physical barriers include distractions like loud noise, poor lighting, or a physical distance between communicators.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

50. Arrange the following stages of the listening process in the correct chronological order:
(a) Evaluating
(b) Responding
(c) Receiving
(d) Understanding
(e) Remembering
Which of the following is the correct order?
(A) (c), (d), (e), (a), (b)
(B) (a), (c), (d), (b), (e)
(C) (c), (e), (d), (a), (b)
(D) (d), (c), (a), (e), (b)

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51. The "Magic Bullet" or "Hypodermic Needle Theory" of mass communication is an early model which suggested that:
(A) The audience is active and interprets messages based on their own experiences.
(B) Media has a limited, indirect effect on the audience.
(C) Media messages are like bullets, directly and uniformly injected into the minds of a passive audience.
(D) Opinion leaders mediate the flow of information from media to the masses.

52. The concept of 'noise' in the Shannon-Weaver model of communication refers to:
(A) Only the loud and audible physical sounds that interrupt a spoken communication.
(B) The specific feedback provided by the receiver back to the original sender.
(C) The intended and literal meaning of the message as designed by the source.
(D) Any factor that interferes with message transmission or reception.

53. Consider the following characteristics of communication:

R. Decoding
S. Feedback
List II: (Description)
1. The medium through which a message passes
2. The receiver's response to the sender's message
3. The process of translating a message into an understandable form
4. The process of interpreting the sender's message

Codes:
(A) P-1, Q-2, R-3, S-4
(B) P-4, Q-3, R-1, S-2
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-3, S-1

72. Cultivation Theory suggests that long-term, heavy exposure to television:
(A) Leads people to adopt beliefs consistent with the "reality" portrayed on television.
(B) Makes people more active and critical consumers of mass media content.
(C) Has no significant effect on people's perceptions of the real world.
(D) Primarily gratifies the entertainment needs of the target audience.

73. The 'Two-Step Flow' model of communication challenged earlier models by proposing that:
(A) Media messages flow directly and uniformly from the media to the masses.
(B) The audience is entirely passive and easily manipulated by media content.
(C) Media messages are filtered and interpreted by trusted 'opinion leaders'.
(D) Communication is a simple, linear process between source and receiver.

74. A case-based scenario: An NGO is designing a communication campaign to promote handwashing with soap in a rural area. The initial survey finds that people believe handwashing is only necessary when hands are visibly dirty. According to the Health Belief Model, the campaign must first focus on increasing the community's perception of:
(A) Perceived susceptibility to germs and disease
(B) Perceived barriers
(C) Cues to action
(D) Self-efficacy

75. The "Digital Divide" in the context of development communication refers to:
(A) The difference in quality between digital and analog media systems.
(B) The division of the internet into different language zones globally.
(C) The time delay in digital satellite communication across regions.
(D) The gap between those with access to modern ICTs and those without.

76. Arrange the adopter categories from the Diffusion of Innovations theory in their typical order:
(a) Laggards
(b) Early Adopters
(c) Innovators
(d) Late Majority
(e) Early Majority

Which of the following is the correct order?
(A) (c), (b), (e), (d), (a)
(B) (a), (d), (e), (b), (c)
(C) (c), (e), (b), (a), (d)
(D) (b), (c), (e), (d), (a)

77. An advertisement that shows a celebrity endorsing a social cause, such as "Don't Drink and Drive," is primarily using which persuasive appeal?
(A) Logical appeal (Logos)
(B) Emotional appeal (Pathos)
(C) Ethical appeal/Source credibility (Ethos)
(D) Statistical appeal

78. Identifying the correct pair:
(A) Semantic Noise - A loud construction site during a conversation
(B) Kinesics - The study of the use of space in communication
(C) Intrapersonal Communication - A team meeting
(D) Gatekeeping - The process of filtering information before it is disseminated

79. The concept of 'empowerment' in development communication is best defined as:
(A) A process through which individuals and communities gain control over their lives.
(B) Providing direct financial aid and subsidies to individuals in need.
(C) The top-down imposition of development

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(A) Health and environment
(B) Population and human rights
(C) Rural development and sustainability
(D) Literacy and gender

63. The concept of "sustainability" in development communication refers to meeting the needs of the present without:
(A) Compromising the ability of future generations to meet their own needs.
(B) Involving community participation in the decision-making process.
(C) Relying on any form of external or foreign project funding.
(D) Using modern and advanced communication technologies available.

64. What is a key difference between Behavior Change Communication (BCC) and Advocacy?
(A) Advocacy uses mass media, while BCC only uses interpersonal communication.
(B) BCC targets behaviors, while Advocacy targets policies and decision-makers.
(C) BCC is only used in health, while Advocacy is used in all sectors.
(D) There is no difference; the terms are synonymous.

65. A community-based organization creates a series of short videos on mobile phones to share information about sustainable farming practices among its members. This is an application of:
(A) Mainstream cinema
(B) ICTs for development
(C) Traditional media for development
(D) Print advertising

66. What does the term 'ICTs' stand for in the context of development?
(A) Information and Communication Technologies
(B) International Communication Treaties
(C) Inter-Cultural Transformation
(D) Institutional Capacity for Training

67. Consider the following statements about using traditional folk media for development:
(a) It has high credibility because it is part of the people's culture.
(b) It is an effective medium for a personalized, intimate, and localized message.
(c) It can be easily integrated with modern media.
(d) It is a very expensive medium compared to mass media.
(e) It is only useful for entertainment and has no persuasive power.
Which of the above statements are correct?
(A) (a), (b), and (c)
(B) (c), (d), and (e)
(C) (a), (d), and (e)
(D) (b), (c), and (d)

68. A researcher is studying the relationship between the level of education (measured as primary, secondary, tertiary) and media preference (radio, TV, internet). Which non-parametric test would be most suitable to determine if there is an association between these two categorical variables?
(A) Pearson's correlation
(B) Independent samples t-test
(C) ANOVA
(D) Chi-square test of independence

69. When a non-parametric test is used instead of a parametric test, it is often because:
(A) The data perfectly follows a normal distribution.
(B) The sample size is very large.
(C) The assumptions of the parametric test (e.g., normality, homogeneity of variance) are not met.
(D) The researcher wants to make stronger inferences about the population.

70. Which of the following best describes 'intrapersonal communication'?
(A) Communication between a large group of people.
(B) Communication within oneself, involving thinking, reflecting, and decision-making.
(C) Communication with a divine or supernatural entity.
(D) Communication between two people from different cultures.

71. Match the communication concept with its description.
List I: (Concept)
P. Encoding
Q. Channel

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(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-1, R-4, S-3

123. The World Health Organization (WHO) is a specialized agency of the United Nations that operates at the:
(A) National level
(B) State level
(C) Local level
(D) International level

124. Consider the following statements about research tests.
Statement I : A t-test is a non-parametric test used to compare the means of two groups.
Statement II : A Chi-square test is used to check for a significant relationship between two nominal (categorical) variables.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

125. The 'perceptual process' involves three stages: selection, organization, and interpretation. In which stage does an individual mentally arrange stimuli into a meaningful pattern?
(A) Selection
(B) Interpretation
(C) Organization
(D) Reception

126. A politician gives a speech to a large crowd in a stadium. This is an example of which level (setting) of communication?
(A) Interpersonal communication
(B) Group communication
(C) Intrapersonal communication
(D) Public communication

127. Which of the following is NOT a basic element of the communication process?
(A) Persuasion
(B) Sender
(C) Message
(D) Receiver

128. According to Symbolic Interactionism, how is 'self' created?
(A) It is biologically predetermined and fixed from the moment of birth.
(B) It is shaped through communication and social interaction with others.
(C) It is imposed on the individual by powerful media institutions and actors.
(D) It is a fixed, internal, and unchanging entity throughout a person's life.

129. The concept of 'message design' in communication theory refers to the:
(A) Technical and mechanical process of transmitting a signal over a long distance.
(B) Strategic choices made in crafting a message to achieve a specific outcome.
(C) Receiver's individual interpretation and decoding of the incoming message.
(D) The simple and direct selection of the communication channel to be used.

130. A key criticism of the early 'Modernization' theory of development was that it was:
(A) Ethnocentric, assuming the Western model of development was universally best.
(B) Too focused on local community participation and individual empowerment.
(C) Overly concerned with long-term environmental sustainability and resources.
(D) Highly critical of the role of mass media in the development process.

131. Which characteristic of an innovation negatively affects its rate of adoption?
(A) Relative Advantage
(B) Compatibility
(C) Complexity
(D) Trialability

132. The process of using communication to promote and secure the long-term viability of development projects and their outcomes is central to the concept of:
(A) Literacy
(B) Population control
(C) Human rights
(D) Sustainability

133. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Behavior Change

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projects by the state.
(D) The simple transfer of modern and advanced technology to a community.

80. A communication strategy that involves local community members in every stage, from planning and message design to implementation and evaluation, is best described as:
(A) The Dominant Paradigm
(B) The Participatory Approach
(C) The Top-Down Approach
(D) The Magic Bullet Model

81. Consider the following key approaches in Advocacy Communication:
(a) Lobbying decision-makers directly.
(b) Mobilizing public support through campaigns.
(c) Building coalitions and alliances with other organizations.
(d) Maintaining a neutral and silent position on policy issues.
Which of the above statements are correct?
(A) (a), (b), and (c)
(B) (b), (c), and (d)
(C) (a), (c), and (d)
(D) (a), (b), and (d)

82. In research, what is the fundamental difference between parametric and non-parametric tests?
(A) Parametric tests rely on assumptions about the population distribution, while non-parametric tests do not.
(B) Parametric tests are used for qualitative data, while non-parametric tests are for quantitative data.
(C) Parametric tests analyze relationships, while non-parametric tests analyze differences.
(D) Parametric tests are less powerful and less likely to find a significant result.

83. The idea that communication and culture are 'inseparable' implies that:
(A) A person can fully understand a culture without speaking its language or understanding its communication norms.
(B) All cultures communicate in exactly the same way.
(C) To learn a culture is to learn how people in that culture communicate.
(D) Communication technologies are independent of cultural influences.

84. Consider the following statements.
Statement I : In Berlo's SMCR model, the 'C' stands for Context.
Statement II : The SMCR model is a linear model that does not explicitly include feedback or noise.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

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85. Which of the following is an example of a 'local' level institution working for development communication?
(A) The United Nations Development Programme (UNDP)
(B) The Ministry of Information and Broadcasting, Government of India
(C) The State Institute of Rural Development (SIRD)
(D) A Village Health, Sanitation and Nutrition Committee (VHSNC)

86. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Community radio is considered a powerful tool for rural and tribal development.
Reason (R) : It provides locally relevant information in local dialects, promotes local culture, and gives a voice to marginalized communities.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

87. A development communicator is preparing a message for a low-literacy rural audience about the benefits of a new government health insurance scheme. Which communication medium would be most appropriate?
(A) A detailed brochure with complex eligibility criteria.
(B) An article in a national English-language newspaper.

(a) It is a dynamic process.
(b) It is always verbal.
(c) It is irreversible and unrepeatable.
(d) It is a one-way process.
(e) It occurs in a context.
Which of the above statements are correct?
(A) (a), (b), and (d)
(B) (b), (d), and (e)
(C) (a), (c), and (e)
(D) (a), (c), and (d)

54. The "Spiral of Silence" theory suggests that:
(A) Media silence on an issue leads to public silence.
(B) People voice opinions more if they believe they are in the majority.
(C) Individuals with minority views are more likely to speak up to persuade others.
(D) The spiral of communication always leads to consensus.

55. In the context of development theories, the "Basic Needs Approach" shifted the focus from mere economic growth to:
(A) Promoting heavy industrialization at any and all costs to the state.
(B) The dependency of poor countries on rich countries for economic survival.
(C) The psychological well-being of the elite class within a given society.
(D) Ensuring the provision of food, shelter, healthcare, and education.

56. Identify the incorrect pair.
(A) Participatory Communication - Wilbur Schramm
(B) Modernization Theory - Walt Rostow
(C) Dependency Theory - Andre Gunder Frank
(D) Diffusion of Innovations - Everett Rogers

57. A development project aims to introduce a new, drought-resistant crop variety to a farming community. The communication strategy focuses on demonstrating the crop's benefits through on-farm trials with a few respected 'opinion leader' farmers. This approach is most directly based on which model/theory?
(A) The Hypodermic Needle Theory
(B) The Agenda-Setting Theory
(C) The Diffusion of Innovations Theory
(D) The Modernization Paradigm

58. What is the role of mass media in the 'Dominant Paradigm' of development communication?
(A) To act as a tool for transferring information and persuading people to adopt modern attitudes.
(B) To facilitate a two-way dialogue between planners and local communities.
(C) To critique government policies and hold them accountable for their actions.
(D) To preserve and promote traditional and historic cultural practices.

59. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Social marketing campaigns often use audience segmentation.
Reason (R) : Segmenting the audience allows communicators to tailor messages and strategies to the specific needs, beliefs, and behaviors of different subgroups, making the campaign more effective.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

60. A key aspect of writing for development for print media, such as a feature in a newspaper, is to:
(A) Use technical jargon to demonstrate professional expertise to the public.
(B) Humanize complex issues by telling personal stories of affected individuals.
(C) Avoid any mention of policy or systemic problems in the written piece.
(D) Write in a purely academic and detached style for a formal publication.

61. Which of the following is NOT a primary concern of development communication?
(A) Environmental degradation
(B) Public health and sanitation
(C) Promoting luxury consumer goods
(D) Gender equality and empowerment

62. A communication campaign that aims to increase the number of girls enrolling in and completing secondary education is primarily addressing the development concerns of:

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engineering aspects of the dam.
(D) Avoid the topic entirely as it is deemed too controversial for news.

97. Match the term with its definition in the context of development communication.
List I: (Term)
P. Participatory Video (PV)
Q. Community Radio
R. Social Marketing
S. Development Journalism
List II: (Definition)
1. Using marketing principles for social good.
2. Critical reporting on the process of development.
3. A community-driven process of video production for social change.
4. A low-cost, community-owned and managed radio station.
Codes:
(A) P-3, Q-4, R-1, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-1, R-4, S-3

98. Which of the following is a key component of the 'entertainment-education' strategy?
(A) Embedding educational or social messages in popular entertainment formats like soaps.
(B) Creating purely educational content that is not entertaining for the audience.
(C) Using entertainment to distract the audience from important social issues.
(D) Airing academic lectures on prime-time television during peak viewing hours.

99. When considering "human rights" as a concern of development communication, which right is most fundamental to the practice of communication itself?
(A) The right to property
(B) The right to work
(C) The right to freedom of expression and information
(D) The right to rest and leisure

100. A researcher wants to test if a new communication intervention has increased the knowledge level of a community. They measure the knowledge level before the intervention and then again after the intervention for the same group of people. Which is the most appropriate statistical test to use?
(A) Independent samples t-test
(B) Chi-square test
(C) Pearson correlation
(D) Paired samples t-test

101. The final stage in the communication process, which provides the sender with information about the effectiveness of their message, is called:
(A) Channel
(B) Noise
(C) Feedback
(D) Encoding

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102. Identify the correct statement about the levels of communication.
(A) Mass communication allows for immediate, personalized feedback from all audience members.
(B) Group communication involves three or more people with a common purpose.
(C) Interpersonal communication is communication one has with oneself.
(D) Intrapersonal communication is the most public form of communication.

103. Which of the following is considered a 'hot' medium?
(A) A medium that is low-definition and requires high audience participation.
(B) A medium that can only be used in warm climates.
(C) A medium that exclusively carries sensationalist content.
(D) A medium that is high-definition and requires low audience participation.

104. The process of making a message more persuasive by highlighting potential losses that can be avoided by adopting a certain behavior, rather than highlighting the potential gains, is known as:
(A) Loss-framing
(B) Gain-framing
(C) Fear appeal
(D) Two-sided messaging

105. Arrange the historical sequence of the following development communication paradigms:

(a) Participatory Paradigm
(b) Dominant Paradigm (Modernization)
(c) Empowerment/Social Change Paradigm
Which of the following is the correct sequence?
(A) (a), (b), (c)
(B) (b), (a), (c)
(C) (c), (b), (a)
(D) (b), (c), (a)

106. In social marketing, the 'Price' component refers not just to monetary cost but also to other 'costs' or barriers such as:
(A) The time, effort, and social disapproval associated with the new behavior.
(B) The specific and physical place where the product is being distributed.
(C) The various promotional and advertising strategies used for the product.
(D) The physical and technical characteristics of the behavior or product.

107. Consider the following statements about the role of communication in development:
(a) Communication can be a tool for empowerment.
(b) Communication is a peripheral, non-essential component of development projects.
(c) Effective communication can foster a sense of community ownership over development initiatives.
(d) The sole purpose of development communication is to ensure compliance with government directives.
Which of the above statements are correct?
(A) (a) and (c)
(B) (b) and (d)
(C) (a) and (d)
(D) (b) and (c)

108. A radio program that discusses farming techniques, market prices for crops, and weather forecasts, specifically for a rural audience, is an example of:
(A) Advocacy communication
(B) Development journalism
(C) Entertainment-education
(D) Corporate public relations

109. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Population growth is a significant concern for development, and communication plays a role in addressing it.
Reason (R) : Communication campaigns can promote family planning, challenge social norms favouring large families, and provide information on reproductive health services.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

110. Which of the following is NOT a model of Behavior Change Communication?
(A) The Health Belief Model
(B) The Stages of Change Model
(C) The Theory of Reasoned Action
(D) The Lasswell Model of Communication

111. The use of folk theatre forms like 'Jatra' in West Bengal or 'Nautanki' in North India to convey messages about social issues like dowry or female infanticide is a classic example of:
(A) Using traditional media for development
(B) Using new media for development
(C) Corporate advertising
(D) International diplomacy

112. Identify the incorrect pair regarding agencies and their level of operation.
(A) UNDP - International
(B) Village Panchayat - International
(C) Prasar Bharati - National
(D) State Institute of Rural Development (SIRD) - State

113. A researcher finds a strong positive correlation between the number of hours spent watching health-related TV shows and an individual's health knowledge score. This means:
(A) Watching health-related TV shows causes an increase in health knowledge.
(B) As viewership hours increase, health knowledge scores tend to increase.
(C) Individuals with high health knowledge are forced to watch more TV.

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(D) There is no relationship between the two variables.

114. The element of 'empathy' is crucial in development communication because it enables the communicator to:
(A) Understand the issue from the community's perspective.
(B) Impose their own values on the community.
(C) Maintain a professional and emotional distance.
(D) Focus only on statistical data.

115. Which communication theory posits that individuals feel discomfort (dissonance) when their beliefs or behaviors are in conflict, and are motivated to reduce this discomfort?
(A) Uses and Gratifications Theory
(B) Social Judgment Theory
(C) Cognitive Dissonance Theory
(D) Cultivation Theory

116. Consider the following 'indicators of development':
(a) Gross Domestic Product (GDP) per capita
(b) Infant Mortality Rate
(c) Adult Literacy Rate
(d) The number of cinemas in a country
(e) Life Expectancy at birth
Which of the above statements are correct?
(A) (a), (b), (c), and (d)
(B) (b), (c), and (d), and (e)
(C) (a), (b), (c), and (e)
(D) (a), (c), and (d), and (e)

117. The "innovation-decision process" consists of five stages. What is the correct sequence of these stages?
(A) Knowledge → Persuasion → Decision → Implementation → Confirmation
(B) Persuasion → Knowledge → Implementation → Decision → Confirmation
(C) Decision → Knowledge → Persuasion → Confirmation → Implementation
(D) Knowledge → Decision → Persuasion → Implementation → Confirmation

118. When a development message is broadcast via national television, it is an example of using:
(A) Interpersonal communication
(B) Mass media
(C) Folk media
(D) Participatory video

119. A key advantage of using the internet for development writing is:
(A) The ability to reach audiences without internet access.
(B) The guarantee that all information found online is accurate and reliable.
(C) The high cost of production, which ensures quality.
(D) The potential for interactivity, feedback, and linking to information.

120. A campaign that focuses on ensuring safe drinking water, proper sanitation facilities, and hygiene practices is addressing which key concern of development communication?
(A) Health
(B) Gender
(C) Human Rights
(D) Literacy

121. The "Theory of Reasoned Action" (and its extension, the "Theory of Planned Behavior") is a BCC model that suggests the best predictor of behavior is:
(A) The person's attitude toward the behavior.
(B) The subjective norms surrounding the behavior.
(C) The person's behavioral intention.
(D) The person's perceived behavioral control.

122. Match the media type with its primary characteristic for development.
List I: (Media Type)
P. Cinema
Q. Advertisement
R. Social Media
S. Puppetry
List II: (Characteristic)
1. Rapid, two-way interaction and user-generated content
2. Culturally-rooted, bypasses literacy, high local relevance
3. Large-scale emotional impact, narrative storytelling
4. Short, persuasive, high-reach messages for awareness
Codes:
(A) P-1, Q-2, R-3, S-4

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(C) A lengthy policy document published on a government website.
(D) A series of radio jingles and street plays in the local dialect.

88. The 'diffusion effect' is a phenomenon where the rate of adoption of an innovation in a social system:
(A) Follows a bell-shaped curve, with different groups adopting at different times.
(B) Remains constant over time.
(C) Is entirely random and unpredictable.
(D) Decreases as more people adopt it.

89. Which of the following is an incorrect statement about the role of communication in development?
(A) It can help in mobilizing people for collective action.
(B) It can create a climate for change by introducing new ideas.
(C) It acts as a substitute for essential services like healthcare and education.
(D) It can provide a platform for dialogue and conflict resolution.

90. In the context of development communication, the use of social media platforms like Facebook and X (formerly Twitter) is primarily for:
(A) Engaging wider audiences and facilitating rapid information sharing and mobilization.
(B) Replacing all traditional forms of communication in a complete manner.
(C) One-way dissemination of government propaganda to the entire population.
(D) Communicating exclusively with international donors and aid organizations.

91. Consider the following characteristics for effective Behavior Change Communication (BCC):
(a) It should be a one-time event, not a continuous process.
(b) It must be evidence-based and informed by research.
(c) It should be participatory, involving the target audience.
(d) It should be focused only on raising awareness, not on skill-building.
(e) It should be client-centered, addressing the audience's needs and perspectives.

Which of the above statements are correct?
(A) (a), (c), and (d)
(B) (b), (c), and (e)
(C) (a), (b), and (e)
(D) (c), (d), and (e)

92. The theory of Symbolic Interactionism is relevant to communication because it emphasizes that:
(A) Meaning is inherent in objects and words themselves without human input.
(B) Interaction is understandable through the exchange of meaningful symbols.
(C) Biological instincts are the primary and only drivers of human behavior.
(D) Mass media has a direct, powerful, and uniform effect on all audiences.

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93. A communication plan designed to persuade legislators to allocate more funding for adult literacy programs is an example of:
(A) Social Marketing
(B) Health Communication
(C) Advocacy Communication
(D) Entertainment-Education

94. What is the main function of 'gatekeepers' in the mass communication process?
(A) To create the original and raw content for all media messages.
(B) To provide feedback from the audience back to the media organization.
(C) To consume media content passively without any further action or input.
(D) To control information flow by selecting, editing, or rejecting messages.

95. In measurement of development, what does GNI stand for?
(A) Gross National Income
(B) Global Network Index
(C) General National Investment
(D) Government Network Initiative

96. A development journalist writing a story on the impact of a new dam would be expected to:
(A) Report only the government's press release on the dam's benefits.
(B) Investigate the dam's impact on communities, the environment, and economy.
(C) Focus solely on the technical and

Communication often requires a multi-pronged approach using various channels.
Reason (R) : A single message delivered through a single channel is usually sufficient to change deeply rooted behaviors in a diverse population.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

134. Which of the following best exemplifies the use of ICTs for development?
(A) A village elder telling traditional stories to children.
(B) A health worker using a mobile app to track child vaccination schedules.
(C) A national newspaper printing its daily edition.
(D) A folk theatre group performing in a village square.

135. The Food and Agriculture Organization (FAO) is an international agency primarily concerned with using communication for:
(A) Promoting press freedom and media development.
(B) Advancing children's rights.
(C) Global health and disease prevention.
(D) Combating hunger and improving food security and rural development.

136. A test's 'power' in statistical analysis refers to its ability to:
(A) Correctly reject a false null hypothesis.
(B) Be calculated quickly by a computer.
(C) Be understood by people with no statistical training.
(D) Work with any type of data, regardless of its distribution.

137. Which principle of communication suggests that every message has both a content dimension and a relationship dimension?
(A) Communication is a process.
(B) Communication is inevitable.
(C) Communication is transactional.
(D) Communication is punctuated.

138. The process of active listening involves all of the following EXCEPT:
(A) Immediately thinking of a counter-argument while the other person is speaking.
(B) Paying close attention to non-verbal cues.
(C) Paraphrasing the speaker's message to confirm understanding.
(D) Asking clarifying questions.

139. Which of the following is NOT a human interaction theory relevant to communication?
(A) Symbolic Interactionism
(B) Social Exchange Theory
(C) Cognitive Dissonance Theory
(D) Newton's Law of Universal Gravitation

140. Match the development indicator with what it measures.
List I: (Indicator)
P. Infant Mortality Rate
Q. Adult Literacy Rate
R. Gini Coefficient
S. Life Expectancy
List II: (Measurement)
1. The percentage of the adult population that can read and write.
2. The average number of years a newborn is expected to live.
3. A measure of income or wealth inequality within a nation.
4. The number of deaths of children under one year of age per 1,000 live births.
Codes:
(A) P-1, Q-2, R-3, S-4
(B) P-4, Q-1, R-3, S-2
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-4, R-1, S-3

141. The failure of the Dominant Paradigm of development communication was largely due to its:
(A) Overemphasis on participation and local culture.
(B) Lack of support from Western governments.
(C) Top-down, ethnocentric, and victim-blaming approach.
(D) Refusal to use mass media.

142. A development campaign for tribal welfare that ignores their unique language, customs, and social structure is likely to fail due to a lack of:

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(A) Funding
(B) Technological support
(C) Media publicity
(D) Cultural sensitivity

143. Consider the following potential applications of Advocacy Communication:
(a) Persuading a government to ban single-use plastics.
(b) Raising public awareness about the importance of girls' education.
(c) Campaigning for stronger enforcement of human rights laws.
(d) Promoting a new brand of soft drink.
Which of the above statements are correct?
(A) (a), (b), and (c)
(B) (b), (c), and (d)
(C) (a), (c), and (d)
(D) (a), (b), and (d)

144. The key advantage of using cinema for development communication is its ability to:
(A) Provide personalized and one-on-one counseling to individual community members.
(B) Combine powerful visuals, sound, and narrative to create emotional impact.
(C) Be produced very cheaply and quickly for rapid dissemination to the public.
(D) Reach large audiences in remote and rural areas without any electricity supply.

145. A local self-help group (SHG) in a village is an example of an organization working for development at the:
(A) International level
(B) Local level
(C) State level
(D) National level

146. Consider the following statements.
Statement I : Parametric tests are generally more statistically powerful than non-parametric tests, provided their assumptions are met.
Statement II : Non-parametric tests are also known as distribution-free tests.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

147. A "psychological barrier" to communication can be caused by:
(A) A faulty telephone line.
(B) The use of technical jargon.
(C) Extreme emotional states like anger or fear.
(D) A large physical distance between communicators.

148. Which model of communication was significant because it introduced the concept of the 'field of experience'?
(A) The Shannon-Weaver Model
(B) The Lasswell Model
(C) Berlo's SMCR Model
(D) Schramm's Model

149. The Human Development Index (HDI) was developed by which organization?
(A) The World Bank
(B) The International Monetary Fund (IMF)
(C) The United Nations Development Programme (UNDP)
(D) The World Trade Organization (WTO)

150. Arrange the following media for development in chronological order of their emergence and widespread use:
(a) Participatory Video
(b) Folk Theatre
(c) Community Radio
(d) Social Media
Which of the following is the correct sequence?
(A) (b), (c), a, (d)
(B) (a), (b), (c), (d)
(C) (b), (a), (d), (c)
(D) (d), (a), (c), (b)

151. Which communication model is often criticized for being overly simplistic and linear, representing communication as a one-way process?
(A) Schramm's interactive model
(B) The transactional model
(C) Barnlund's transactional model
(D) The Shannon-Weaver model

152. In the context of culture and communication, 'high-context' cultures are those where:
(A) Most info is in the physical context or internalized, with less reliance on words.
(B) Communication is highly explicit, extremely

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direct, and primarily verbal.
(C) There is no reliance whatsoever on non-verbal cues or situational signals.
(D) The context of the situation is considered irrelevant to the communication.

153. Consider the following functions of communication:
(a) To inform
(b) To persuade
(c) To entertain
(d) To build relationships
(e) To create confusion
Which of the above statement(s) is/are correct?
(A) (a), (b), (c), and (d)
(B) (a), (c), and (d), and (e)
(C) (b), (c), and (d), and (e)
(D) (a), (b), and (d), and (e)

154. A major shift from the 'Dominant Paradigm' to the 'Participatory Paradigm' of development communication was the recognition that:
(A) People are active participants in their own development rather than passive.
(B) Western technology is the only absolute solution to all development problems.
(C) Top-down communication is the most efficient and rapid method for change.
(D) Mass media has no role to play in the development process of a nation.

155. Writing for a radio-based development program requires the scriptwriter to "write for the ear, not the eye". This means:
(A) Using long and complex sentences with highly sophisticated technical vocabulary.
(B) Incorporating visual descriptions that the audience cannot see in the format.
(C) Avoiding the use of any sound effects and music to keep the focus on words.
(D) Using short, simple sentences and a conversational tone suitable for listening.

156. The concern for 'rural and tribal development' in development communication focuses on:
(A) Promoting urban lifestyles in rural areas.
(B) Addressing the specific info needs and socio-cultural contexts of communities.
(C) Discouraging the use of traditional knowledge systems.
(D) Implementing communication strategies designed for urban audiences in rural settings.

157. An NGO wants to run a campaign to stop the practice of open defecation in a village. The campaign involves public pledges, community-led monitoring, and shaming tactics to create social pressure. This approach is most closely related to:
(A) Social Marketing
(B) Participatory Video
(C) Community-Led Total Sanitation (CLTS)
(D) Development Journalism

158. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Mobile phones have become a significant tool for development communication.
Reason (R) : Their widespread availability, portability, and ability to deliver text, voice, and data services facilitate access to information, financial services, and health advice.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

159. UNESCO has been a major proponent of:
(A) A free and pluralistic media as essential for democracy and development.
(B) Government censorship of all media content within a nation state.
(C) The idea that communication is entirely irrelevant to development.
(D) A single, global media outlet controlled by one central authority.

160. ANOVA (Analysis of Variance) is a parametric statistical test used to:
(A) Compare the means of two groups.
(B) Compare the means of three or more groups.
(C) Test the association between two categorical variables.
(D) Measure the correlation between two continuous variables.

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161. Which barrier to communication occurs when the sender and receiver have different interpretations of a word or phrase?
(A) Physical barrier
(B) Semantic barrier
(C) Psychological barrier
(D) Organizational barrier

162. Which of the following theories of development focuses on the transition from a traditional society to a modern one through systematic social and economic changes?
(A) Modernization Theory
(B) Dependency Theory
(C) Participatory Theory
(D) Post-Development Theory

163. The use of a popular TV soap opera to include storylines about HIV/AIDS prevention and testing is a strategy known as:
(A) Social Marketing
(B) Public Relations
(C) Entertainment-Education
(D) Development Journalism

164. What is the role of a 'facilitator' in a participatory communication process?
(A) To provide all the answers and make decisions for the entire group.
(B) To record the minutes of the meeting without ever participating.
(C) To represent the specific and restricted views of the funding agency.
(D) To guide discussion and help the group reach its own conclusions.

165. The term 'empathy' in communication is best exemplified by the phrase:
(A) "I know exactly how you feel."
(B) "You shouldn't feel that way."
(C) "I understand how you might be feeling in this situation."
(D) "Let me tell you about my problems."

166. Which theory argues that media do not have direct effects but influence people through a 'two-step flow' where opinion leaders play a key role?
(A) Hypodermic Needle Theory
(B) Two-Step Flow Theory
(C) Cultivation Theory
(D) Agenda Setting Theory

167. Identify the correct statement regarding social marketing.
(A) It is the same as commercial marketing, with no difference in goals.
(B) Its primary goal is to generate profit for a corporation.
(C) It is only applicable in developed countries.
(D) It uses marketing techniques to influence behavior for social good.

168. Which of the following is an example of 'advocacy' in development communication?
(A) A campaign to persuade policymakers to pass a Right to Food Act.
(B) A research report describing poverty levels in a region.
(C) A radio show playing popular music.
(D) A training manual on how to use a new software.

169. What distinguishes 'new media' like the internet and mobile phones from 'old media' like print and broadcast?
(A) New media is exclusively used for digital entertainment purposes only.
(B) Old media is inherently more reliable and accurate for the public.
(C) New media allows for interactivity and user-generated content.
(D) Old media always has a wider reach than new media in every context.

170. A state-level agency responsible for disseminating information about government schemes and programs within that state is an example of a:
(A) State-level development communication organization
(B) International NGO
(C) Local self-help group
(D) National broadcaster

171. A researcher is studying the reading habits of students. They ask students to rank their preferred reading materials (Newspaper, Magazine, Book, Online blog) from 1 to 4. What kind of data is this?
(A) Nominal
(B) Interval

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(C) Ratio
(D) Ordinal

172. Consider the following statements.
Statement I : The process of communication is complete once the sender has transmitted the message.
Statement II : Feedback is a crucial component that makes communication a two-way process.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

173. The 'magic bullet theory' is an alternative name for which mass communication theory?
(A) Uses and Gratifications Theory
(B) Agenda-Setting Theory
(C) Hypodermic Needle Theory
(D) Spiral of Silence Theory

174. Consider the following characteristics of communication:
(a) Communication is a process.
(b) Communication is static and fixed.
(c) Communication is transactional.
(d) Communication is always intentional.
(e) Communication is irreversible.
Which of the above statement(s) is/are correct?
(A) (a), (b), and (c)
(B) (a), (c), and (e)
(C) (b), (d), and (e)
(D) (a), (d), and (e)

175. The 'Dependency Theory' of development emerged as a critique of:
(A) The Modernization Theory
(B) The Participatory Approach
(C) The Empowerment Model
(D) The Social Marketing Approach

176. Which of the following is NOT one of the '4 Ps' of social marketing?
(A) Product
(B) Price
(C) Place
(D) Policy

177. A development journalist's primary responsibility is to:
(A) Serve as a mouthpiece for the government's official news and propaganda.
(B) Provide critical and in-depth coverage of development issues.
(C) Focus only on positive success stories to encourage the local population.
(D) Generate advertising revenue for their publication via commercial means.

178. A health communication campaign that aims to reduce stigma associated with mental illness is primarily addressing which development concern?
(A) Health and Human Rights
(B) Environment
(C) Literacy
(D) Population

179. A key challenge for Behavior Change Communication (BCC) is to move the audience from:
(A) The action stage to the long-term maintenance stage of a behavior.
(B) The contemplation stage back to the pre-contemplation stage of change.
(C) Awareness and knowledge to sustained behavior change.
(D) Having a behavioral intention to a state of complete and final inaction.

180. Match the media form with its most prominent feature in a development context.
List I: (Media Form)
P. Community Radio
Q. Participatory Video
R. Social Media
S. Traditional Puppetry
List II: (Prominent Feature)
1. Visual storytelling by the community for the community
2. Networked communication and rapid mobilization
3. Voice of the voiceless, local relevance, oral tradition
4. Cultural resonance, bypasses literacy barriers
Codes:
(A) P-1, Q-2, R-4, S-3
(B) P-3, Q-1, R-2, S-4
(C) P-2, Q-4, R-3, S-1
(D) P-4, Q-3, R-1, S-2

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181. UNICEF is an international agency that stands for:
(A) United Nations International Cultural Exchange Fund
(B) United Nations Information and Communication Entity
(C) United Nations Children's Fund
(D) Universal Network for Inter-Cultural and Educational Foundation

182. If the results of a statistical test yield a p-value of 0.03, and the significance level (alpha) is set at 0.05, the researcher should:
(A) Accept the null hypothesis.
(B) Reject the null hypothesis.
(C) Redo the experiment.
(D) Conclude that the result is not statistically significant.

183. In communication, 'perception' is subjective. This means that:
(A) Everyone perceives the same event in exactly the same way.
(B) Perception is an objective process of recording reality.
(C) The sender's perception is always the correct one.
(D) Two people can experience the same event but interpret it very differently.

184. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Persuasion is a key function of communication in development.
Reason (R) : Development communicators often need to persuade individuals and communities to adopt new, beneficial behaviors and attitudes, such as using bed nets to prevent malaria or adopting sustainable agricultural practices.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

185. Consider the following scenario: A community health worker tries to talk to a new mother about vaccination, but the mother is distracted by her crying baby and worried about cooking dinner. The communication is failing due to:
(A) Semantic barriers
(B) A faulty channel
(C) Physical and psychological noise
(D) Lack of encoding skills

186. Which communication theory focuses on how message recipients evaluate persuasive arguments, distinguishing between a 'central route' (thoughtful consideration) and a 'peripheral route' (reliance on cues)?
(A) Elaboration Likelihood Model (ELM)
(B) Social Learning Theory
(C) Cultivation Theory
(D) Media Equation Theory

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187. The term 'indicators of development' refers to:
(A) The theories explaining development.
(B) The models for implementing development projects.
(C) The communication strategies used in development.
(D) The specific, measurable statistics used to track progress in development.

188. Which of the following is defined as the process by which an innovation is communicated through certain channels over time among the members of a social system?
(A) Agenda Setting
(B) Diffusion
(C) Cultivation
(D) Gatekeeping

189. Which of the following is a primary goal of writing for development on the internet?
(A) To use complex, academic language to limit the audience reach.
(B) To avoid all forms of multimedia and interactive digital elements.
(C) To make information accessible, shareable, and actionable for all.
(D) To ensure the content cannot be updated or corrected by anyone.

190. A development communication initiative focused on promoting education and skill-building among adults who missed formal schooling is addressing the concern of:
(A) Environment

(B) Health
(C) Gender
(D) Literacy

191. A key application of Behavior Change Communication (BCC) is to:
(A) Provide information and motivation for healthier or beneficial choices.
(B) Force people to change their personal habits against their own will.
(C) Exclusively focus on changes at the high and macro policy-level only.
(D) Market commercial and for-profit products for various businesses.

192. Consider the following statements about traditional media for development:
(a) They are often rooted in local culture and traditions.
(b) They include forms like folk theatre, puppetry, and storytelling.
(c) They are generally considered 'new media'.
(d) They can be effective in bypassing literacy barriers.
Which of the above statement(s) is/are correct?
(A) (a), (b), and (c)
(B) (a), (c), and (d)
(C) (b), (c), and (d)
(D) (a), (b), and (d)

193. The level of analysis in research where the data collected does not follow a normal distribution often requires the use of:
(A) Non-parametric tests
(B) Parametric tests
(C) Both parametric and non-parametric tests
(D) No statistical tests

194. The principle that "one cannot not communicate" implies that:
(A) We are always communicating, even through silence or non-action.
(B) Communication is always verbal and explicit.
(C) It is possible to stop communicating completely.
(D) Communication only happens when it is intentional.

195. The 'transactional' model of communication differs from linear models because it:
(A) Views communication as a one-way event.
(B) Excludes the concept of noise.
(C) Emphasizes the simultaneous sending and receiving of messages by communicators.
(D) Suggests that the receiver is passive.

196. The concept of 'conscientization', which is the process of developing a critical awareness of one's social reality through reflection and action, is associated with which approach?
(A) Modernization Paradigm
(B) Top-down Communication
(C) Social Marketing
(D) Participatory Communication

197. Which development communication model is most closely associated with the 'Dominant Paradigm'?
(A) Participatory Model
(B) Empowerment Model
(C) Top-down, Linear Model
(D) Dialogue Model

198. An 'opinion leader' in the context of the Two-Step Flow theory is typically someone who is:
(A) A political celebrity with no connection to the local community.
(B) An active media user who is respected within their social network.
(C) A passive audience member who never shares any media information.
(D) A journalist or professional working in a mainstream media outlet.

199. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Development journalism goes beyond reporting events and seeks to explain the 'why' and 'how' of development processes.
Reason (R) : It aims to provide context, analyze policies, and highlight the human impact of development, thereby empowering citizens to understand and participate in their own development.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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220. Communication campaigns aimed at increasing voter turnout and informed participation in elections are addressing the development concerns of:
(A) Health and sanitation
(B) Governance and human rights
(C) Environmental sustainability
(D) Rural development

221. Which model posits that behavior is a function of behavioral intentions and perceived behavioral control, where intentions are in turn influenced by attitudes, subjective norms, and perceived control?
(A) Health Belief Model
(B) Stages of Change Model
(C) Theory of Planned Behavior
(D) Social Learning Theory

222. An advertisement promoting a new brand of soap is an example of commercial advertising, whereas an advertisement promoting handwashing with soap to prevent disease is an example of:
(A) Corporate communication
(B) Public relations
(C) Political advertising
(D) Social advertising/marketing

223. An international NGO like 'Reporters Without Borders' works in the area of development communication by:
(A) Advocating for press freedom and the safety of journalists.
(B) Funding large infrastructure projects.
(C) Distributing food aid.
(D) Running community radio stations directly.

224. Which of the following is a parametric test?
(A) Chi-Square Test
(B) Mann-Whitney U Test
(C) Spearman's Rank-Order Correlation
(D) Pearson Product-Moment Correlation

225. Intrapersonal communication is a prerequisite for other forms of communication because:
(A) One must be able to speak multiple languages.
(B) It is where individuals formulate their thoughts and feelings before expressing them to others.
(C) It is the most public form of communication.
(D) It requires advanced technology.

226. Which communication model (1948) is summarized by the question: "Who says What in Which Channel to Whom with What Effect?"
(A) Lasswell's model
(B) Schramm's model
(C) Shannon-Weaver model
(D) Berlo's model

227. The concept that development should be "of the people, by the people, and for the people" is central to which paradigm?
(A) The Modernization Paradigm
(B) The Dependency Paradigm
(C) The Participatory Paradigm
(D) The Top-Down Paradigm

228. Consider the following statements about development communication approaches:
(a) The diffusion of innovations model focuses on how new ideas spread.
(b) Social marketing applies commercial marketing principles to social issues.
(c) The dominant paradigm emphasized one-way, top-down communication.
(d) Participatory approaches view community members as passive recipients.
Which of the above statement(s) is/are correct?
(A) (a), (b), and (c)
(B) (b), (c), and (d)
(C) (a), (c), and (d)
(D) (a), (b), and (d)

229. A key difference between 'development journalism' and 'government public relations' is:
(A) There is no difference.
(B) PR is promotional and often one-sided.
(C) Journalism is critical and analytical, while PR is promotional and one-sided.
(D) Development journalism is done by foreigners, while PR is done by locals.

230. A communication project focused on reducing maternal and child mortality rates falls under the key concern of:
(A) Environmental communication
(B) Health communication
(C) Literacy promotion

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(A) Celebrity gossip
(B) Tribal development
(C) Health
(D) Human rights

211. The 'Stages of Change' model is useful for Behavior Change Communication because it helps communicators to:
(A) Understand that everyone is equally ready to change their behavior.
(B) Focus all efforts only on people who are already taking action.
(C) Tailor interventions based on an individual's readiness to change.
(D) Use the same message for everyone regardless of their current status.

212. Match the media category with a specific example.
List I: (Media Category)
P. Traditional Media
Q. Modern Media
R. New Media
S. Advocacy Media
List II: (Specific Example)
1. A policy brief submitted to parliamentarians
2. A social media campaign for a social cause
3. A 35mm feature film shown in theatres
4. A traditional folk song (e.g., a 'Lavani' in Maharashtra)
Codes:
(A) P-4, Q-3, R-2, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-1, R-4, S-3

213. Prasar Bharati in India is a:
(A) Local community organization
(B) State-level agency
(C) India's public service broadcaster (National)
(D) An international NGO

214. A key reason to use a non-parametric test is when the data is:
(A) Perfectly normally distributed.
(B) In the form of ranks or categories.
(C) Collected from a very large sample.
(D) Measured on an interval or ratio scale with all assumptions met.

215. The 'process of listening' is best described as:
(A) A passive act of hearing sounds.
(B) The physical ability to perceive auditory signals.
(C) A process that is synonymous with agreeing with the speaker.
(D) An active process of receiving, understanding, and responding to messages.

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216. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Culture and communication are inextricably linked.
Reason (R) : One's culture teaches them what is acceptable to communicate, how to communicate, and how to interpret messages from others.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

217. The 'participatory approach' to development communication emphasizes:
(A) Decisions being made exclusively by various external experts.
(B) A one-way flow of information from government down to the people.
(C) Horizontal communication and co-creation of solutions with the community.
(D) The use of high-cost, imported technology for local development.

218. In the 'Diffusion of Innovations' theory, who are the very first individuals in a social system to adopt an innovation?
(A) Innovators
(B) Early Adopters
(C) Early Majority
(D) Laggards

219. A development writer crafting a story for an online blog post should prioritize:
(A) Very long paragraphs and no images.
(B) Using complex academic jargon.
(C) A format that is difficult to share.
(D) A catchy headline, short paragraphs, bullet points, and multimedia.

200. A communication strategy that focuses on protecting natural resources and promoting eco-friendly practices falls under the concern of:
(A) Environmental Communication and Sustainability
(B) Gender and Development
(C) Health Communication
(D) Population Communication

201. Which of the following is a key approach in advocacy communication?
(A) Maintaining total silence on controversial issues to avoid any conflict.
(B) Focusing only on individual and personal behavior change strategies.
(C) Media advocacy to shape public opinion and professional news coverage.
(D) Commercial and for-profit advertising of various market products.

202. The use of a village 'wall newspaper' or 'bhitti patrika' is an example of:
(A) A low-cost, local, and participatory form of print media.
(B) New media for development.
(C) International satellite broadcasting.
(D) A purely oral tradition of communication.

203. Which of the following represents a hierarchy of organizations from the international to the local level?
(A) UNDP → State Govt. of Kerala → Village Panchayat in Haryana
(B) UNICEF → A community radio in Tamil Nadu → Prasar Bharati
(C) WHO → A national NGO → The United Nations
(D) World Bank → Government of India → A local SHG in Bihar

204. Which of the following is a non-parametric equivalent of the independent samples t-test?
(A) Wilcoxon signed-rank test
(B) Mann-Whitney U test
(C) Kruskal-Wallis test
(D) Chi-square test

205. The 'halo effect' is a perceptual error where:
(A) We judge people from other cultures more harshly than those from our own.
(B) We assume that other people share our own internal beliefs and values.
(C) We form a general impression based on a single positive characteristic.
(D) We pay more attention to negative information than positive information.

206. Identify the correct statement about mass communication theories.
(A) Early theories viewed the audience as powerful and active.
(B) All mass communication theories agree that media has a uniform and powerful effect.
(C) Mass communication theories are not relevant to development communication.
(D) Later theories recognized audiences as active and media effects as complex.

207. Consider the following key concepts in development communication:
(a) Participation
(b) Empowerment
(c) Social Change
(d) Top-down instruction only
(e) Dialogue
Which of the above statement(s) is/are correct?
(A) (a), (b), and (c)
(B) (b), (c), and (d)
(C) (a), (b), (c), and (e)
(D) (a), (c), and (d)

208. The term 'social marketing' was first introduced to describe the use of marketing concepts to promote social objectives by which theorists?
(A) Wilbur Schramm and Everett Rogers
(B) Philip Kotler and Gerald Zaltman
(C) Harold Lasswell and Paul Lazarsfeld
(D) Marshall McLuhan and George Gerbner

209. Writing for a television-based development message has the unique advantage of:
(A) Being extremely cheap and requiring no professional technical skills.
(B) Combining sight, sound, and motion for a high-impact message.
(C) Being easily accessible to people who do not own television sets.
(D) Allowing for lengthy, abstract, and academic discourses on air.

210. Which one of the following is NOT a major concern of development communication?

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(D) Tribal development

231. The primary target audience for 'advocacy communication' is often:
(A) The general public
(B) Children and youth
(C) The international academic community
(D) Policymakers, leaders, and other influential and powerful individuals

232. 'Community Radio' is considered a powerful tool for development because it is:
(A) Accessible, low-cost, participatory, and uses local language.
(B) Controlled by large multinational media corporations.
(C) A one-way medium with no audience interaction.
(D) Primarily focused on broadcasting international news stories.

233. A local NGO that uses street theatre, public meetings, and pamphlets to campaign for better local sanitation is an example of an organization working at the:
(A) International level
(B) National level
(C) Local/grassroots level
(D) State level

234. Consider the following statements.
Statement I : Data measured on a nominal scale can be meaningfully subjected to parametric tests like the t-test.
Statement II : Non-parametric tests are ideal for analyzing nominal and ordinal data.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

235. Which of the following is a key principle of effective communication?
(A) The message should always be as complex as possible to show expertise.
(B) The choice of channel is irrelevant to the overall success of the message.
(C) Feedback should be discouraged to save time for both sender and receiver.
(D) The communicator should consider the audience's frame of reference.

236. Which mass communication theory suggests that the media shapes a "mean world" perception among heavy viewers of violent content?
(A) Agenda-Setting Theory
(B) Cultivation Theory
(C) Uses and Gratifications Theory
(D) Spiral of Silence Theory

237. Which of the following development approaches would most likely use methods involving dialogue and the development of a critical consciousness?
(A) The Modernization Approach
(B) The Top-Down Implementation Approach
(C) The Participatory Communication for Social Change Approach
(D) The Technology Transfer Approach

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238. In the Diffusion of Innovations theory, the "relative advantage" of an innovation refers to:
(A) How complex the innovation is to understand and use.
(B) How compatible the innovation is with existing values and practices.
(C) The opportunity to try the innovation on a limited basis.
(D) The degree to which an innovation is perceived as better than the existing idea.

239. A key skill for a development journalist is the ability to:
(A) Translate complex technical reports and statistics into compelling stories.
(B) Uncritically accept and report government data without any additional checking.
(C) Avoid controversial topics that might upset high-ranking government officials.
(D) Work exclusively from an office without ever engaging in field reporting.

240. The 'digital divide' is a development communication concern because it:
(A) Ensures that everyone has equal access to all types of information.
(B) Exacerbates existing inequalities by limiting access to key opportunities.
(C) Is a problem that has been completely solved on a global scale.
(D) Only affects developed and industrialized

(A) To generate commercial profit for corporations.
(B) To influence behaviors for the benefit of society.
(C) To critique the top-down nature of diffusion models.
(D) To test the spread of new technologies exclusively.

267. The diffusion of innovations theory is described as a process that explains the spread of:
(A) Only commercial products.
(B) New ideas and technologies through a social system.
(C) Only participatory communication approaches.
(D) Social marketing principles in commercial contexts.

268. What role do the mass media primarily play within the diffusion of innovations model as mentioned in the text?
(A) Creating awareness and disseminating information widely.
(B) Serving as a channel for community engagement and feedback.
(C) Applying commercial marketing techniques for social good.
(D) Functioning exclusively in a top-down, non-participatory manner.

269. A key critique of early diffusion models mentioned in the passage is their:
(A) Over-reliance on social marketing principles.
(B) Lack of focus on opinion leaders.
(C) Tendency to be top-down in nature.
(D) Inability to use mass media channels.

270. The passage suggests that for both diffusion of innovations and social marketing to be successful, they must be:
(A) Applied uniformly across all cultures.
(B) Implemented without any community engagement.
(C) Used only for promoting new technologies.
(D) Adapted carefully to local contexts.

Direction : Please read the following source carefully.

The role of communication in development is both foundational and instrumental, extending far beyond simple information dissemination. Its primary importance lies in facilitating participatory processes, empowering communities to identify their own needs, and enabling them to be active agents in their own development. This necessitates a shift from a one-way, top-down flow of information to a two-way, dialogical engagement. A specialized field that embodies this principle is development journalism. Unlike conventional journalism, which may focus on events and personalities, development journalism concentrates on the processes of development. It aims to provide in-depth, contextualized reporting on development issues, challenges, and successes, thereby creating public awareness and fostering constructive debate. Writing for development requires adapting messages for specific media to maximize impact. For print media, this may involve detailed articles and case studies. For radio, which reaches remote and low-literacy populations, the focus is on accessible formats like dramas, talk shows, and jingles. Television can use powerful visuals and documentaries to evoke emotional connection, while the internet offers interactive platforms for engagement, e-learning, and mobilizing social action. The need and importance of communication are thus demonstrated in its capacity to inform, educate, mobilize, and create a space for public discourse on development.

Based on the above source, attempt the following five questions.

271. What does the passage identify as the primary importance of communication in development?
(A) Simple, one-way dissemination of information from experts.
(B) Focusing exclusively on the role of the internet and social media.
(C) Facilitating participation and empowering communities.
(D) Reporting on personalities and major political events.

272. How is development journalism differentiated from conventional journalism in the passage?
(A) It avoids reporting on challenges and focuses only on successes.
(B) It concentrates on the processes of development rather than just events.

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(C) Ordinal
(D) Categorical

Direction : Please read the following source carefully.

The fundamental nature of communication transcends the simplistic model of information transmission; it is a complex, dynamic process characterized by its indispensability and irreversibility. At its core, the process involves key elements such as a sender, a message, a channel, a receiver, and feedback, all operating within a specific context. However, the efficacy of this process is often impeded by various barriers, which can be physical, psychological, or semantic. Perception, the subjective interpretation of sensory information, acts as a primary psychological filter, often creating a significant barrier to mutual understanding. Effective communication, therefore, hinges on principles like clarity, consistency, and adequacy of the message. To overcome perceptual barriers and achieve persuasive outcomes, empathy—the ability to understand and share the feelings of another—is crucial. Furthermore, the process of listening is not a passive act but an active skill involving receiving, interpreting, and responding to the message. The transaction of communication occurs at various levels or settings, ranging from the intrapersonal (communication with oneself) to the interpersonal, group, public, and mass levels, each with its unique dynamics and challenges. Successfully navigating these levels requires a conscious application of communication principles and a commitment to empathetic, active listening.

Based on the above source, attempt the following five questions.

251. According to the passage, what is the primary role of perception in the communication process?
(A) To ensure the physical transmission of the message.
(B) To act as a psychological filter that can create a barrier.
(C) To guarantee the persuasive outcome of the message.
(D) To facilitate the intrapersonal level of communication.

252. Which of the following is described as an active skill rather than a passive act in communication?
(A) The process of listening.
(B) Sending a message.
(C) Selecting a channel.
(D) Experiencing a physical barrier.

253. The passage suggests that empathy is most critical for which of the following purposes?
(A) Eliminating all physical barriers in the communication environment.
(B) Structuring the elements of the communication model.
(C) Overcoming perceptual barriers and achieving persuasion.
(D) Differentiating between group and public communication settings.

254. Based on the description in the passage, communication is best understood as:
(A) A linear, one-way transfer of information.
(B) A reversible act that can be easily corrected.
(C) A static event with fixed elements.
(D) A dynamic, irreversible, and complex process.

255. The passage categorizes communication settings into different levels. Which sequence correctly represents these levels from the individual to the largest scale?
(A) Interpersonal, Intrapersonal, Mass, Group.
(B) Mass, presidential, Group, Interpersonal, Intrapersonal.
(C) Intrapersonal, Interpersonal, Group, Mass.
(D) Group, Public, Mass, Intrapersonal.

Direction : Please read the following source carefully.

Communication studies are underpinned by a diverse array of theories that seek to explain its complex mechanisms and effects. These can be broadly categorized, with human interaction theories focusing on the dynamics of interpersonal and group communication, while mass communication theories analyze the influence of mediated messages on large, anonymous audiences. Human interaction theories delve into how individuals negotiate meaning, build relationships, and manage social identities through communicative acts. In contrast, mass communication theories often explore societal-

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level, government ministries (such as Health, Agriculture, or Information) are key actors, responsible for formulating and implementing national development communication policies and large-scale campaigns. State-level bodies often adapt these national policies to regional contexts and manage their implementation. The institutional framework is completed by a vibrant and diverse set of actors at the local level, including non-governmental organizations (NGOs), community-based organizations (CBOs), and local self-governance institutions. These local organisations are crucial for grassroots mobilization, ensuring that communication interventions are contextually relevant and participatory. The effectiveness of the overall development communication effort often depends on the coordination and collaboration among these different tiers—international, national, state, and local—each bringing its unique strengths and perspective to the shared goal of fostering sustainable development.

Based on the above source, attempt the following five questions.

291. According to the passage, what is a primary role of international agencies like UNESCO and UNICEF in development communication?
(A) Directly implementing all grassroots projects at the local level.
(B) Exclusively formulating policies for state-level bodies.
(C) Setting global agendas, funding initiatives, and providing technical assistance.
(D) Operating independently of national governments and local NGOs.

292. Which actors are described as being crucial for grassroots mobilization and ensuring communication is contextually relevant?
(A) Local organisations like NGOs and CBOs.
(B) International agencies.
(C) National government ministries.
(D) State-level policy-making bodies.

293. The passage indicates that national-level development communication policies are primarily formulated and implemented by:
(A) The World Bank.
(B) Local NGOs.
(C) International media corporations.
(D) Government ministries.

294. The text describes the structure of organisations working in development communication as:
(A) A single, centralized global entity.
(B) A multi-tiered framework from international to local levels.
(C) A system exclusively run by national governments.
(D) A loose collection of independent local organisations.

295. The overall effectiveness of development communication efforts is said to depend heavily on:
(A) The dominance of international agencies over local ones.
(B) The separation and independence of each organizational tier.
(C) The coordination and collaboration among the different tiers.
(D) The level of funding provided by state-level bodies alone.

Direction : Please read the following source carefully.

In communication research, particularly within the context of evaluating development interventions, the rigorous analysis of quantitative data is essential for drawing valid conclusions. After data collection, researchers employ statistical tests to determine the significance of their findings. These tests are broadly classified into two categories: parametric and non-parametric tests. The choice between them is not arbitrary and depends on certain assumptions about the data. Parametric tests, such as the t-test or ANOVA, are generally more powerful but require the data to meet stringent criteria. These assumptions typically include that the data are drawn from a normally distributed population, that the variances of the groups being compared are similar (homogeneity of variance), and that the data are measured on at least an interval scale. When these assumptions are violated—for example, when dealing with small sample sizes, data that is not normally distributed, or data that is ordinal (ranked) in nature—researchers must turn to non-parametric tests. Examples of non-parametric tests include the Chi-square test, Mann-Whitney U test, or Kruskal-Wallis test.

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models and indicators often reflects the underlying development theory being applied, whether it emphasizes modernization, dependency, or alternative paradigms focused on empowerment and participatory growth. The measurement of development is, therefore, not a neutral technical exercise but a value-laden process that reflects particular priorities and definitions of a good society.

Based on the above source, attempt the following five questions.

261. According to the passage, how has the concept of development evolved?
(A) It has shifted from a focus on social metrics to purely economic ones.
(B) It has narrowed to focus solely on environmental sustainability.
(C) It has become entirely synonymous with political freedom.
(D) It has moved from a purely economic definition to a multidimensional one.

262. What does the passage identify as a primary limitation of using only GNP to measure development?
(A) It is too difficult to calculate accurately for most nations.
(B) It fails to account for non-economic aspects of human well-being.
(C) It is only relevant for applying dependency theory.
(D) It cannot be combined with other indicators like life expectancy.

263. The Human Development Index (HDI) is presented as an example of:
(A) An early economic growth metric.
(B) A model based exclusively on dependency theory.
(C) A composite indicator for a holistic measurement of development.
(D) An indicator focused solely on environmental sustainability.

264. What does the passage imply about the process of measuring development?
(A) It is a completely objective and neutral technical task.
(B) It is independent of the underlying development theories.
(C) It has reverted back to using only economic indicators.
(D) It is a process that reflects specific values and priorities.

265. Based on the passage, a development model focused on empowerment and participatory growth would be considered:
(A) An alternative development paradigm.
(B) A traditional model focused on GNP.
(C) A modernization theory model.
(D) A model that rejects composite indicators.

Direction : Please read the following source carefully.

Development communication strategically employs various models and approaches to facilitate social change. A seminal approach is the diffusion of innovations theory, which explains how, why, and at what rate new ideas and technologies spread through cultures. This model outlines a process where innovations are communicated through certain channels over time among the members of a social system, often involving opinion leaders to accelerate adoption. The mass media play a pivotal role in this process, particularly in creating awareness and disseminating information to a wide audience, functioning as a powerful catalyst for change. However, the top-down nature of early diffusion models has been critiquED, leading to more participatory communication approaches. Another significant approach is social marketing, which applies commercial marketing principles and techniques to influence behaviors for societal benefit rather than commercial profit. Social marketing campaigns use audience segmentation, research, and a strategic mix of communication channels to 'sell' a pro-social behavior, such as adopting new health practices or conservation habits. Both diffusion of innovations and social marketing represent structured approaches to using communication for development, but they require careful adaptation to local contexts to be effective and to avoid simply imposing external ideas without community engagement.

Based on the above source, attempt the following five questions.

266. According to the passage, what is the primary goal of social marketing?

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level effects, such as agenda-setting or cultivation of beliefs through media exposure. Bridging these domains are message design theories, which provide frameworks for constructing messages that are persuasive, comprehensible, and effective in achieving specific goals, regardless of the channel. A crucial, overarching concept is the intricate relationship between culture and communication. Culture is not merely a context but is a constitutive element of communication systems; it shapes how messages are encoded, decoded, and interpreted. Communication, in turn, is the primary vehicle through which culture is produced, maintained, and transformed. Therefore, any robust communication system, whether interpersonal or mass-mediated, is fundamentally embedded within and reflective of a specific cultural framework, influencing everything from non-verbal cues in human interaction to the narrative structures in mass media content.

Based on the above source, attempt the following five questions.

256. Which type of theory, according to the passage, is primarily concerned with the influence of mediated messages on large, anonymous populations?
(A) Human interaction theories.
(B) Mass communication theories.
(C) Message design theories.
(D) Culture-centric communication theories.

257. What is the main function of message design theories as described in the source?
(A) To analyze the societal-level effects of media exposure.
(B) To focus on the negotiation of meaning in interpersonal contexts.
(C) To study how culture is produced and maintained.
(D) To provide frameworks for constructing effective messages.

258. The passage describes the relationship between culture and communication as:
(A) One where culture shapes communication, and communication perpetuates culture.
(B) One where culture is merely the context for communication.
(C) One where communication is independent of cultural frameworks.
(D) One where culture is only relevant to human interaction, not mass communication.

259. A researcher studying how friends build relationships through conversation would most likely draw upon which theoretical domain mentioned in the text?
(A) Mass communication theories.
(B) Message design theories.
(C) Human interaction theories.
(D) Theories of cultural production.

260. What can be inferred about the scope of communication systems from the passage?
(A) They are fundamentally shaped by their cultural context.
(B) They operate independently of the cultural environment.
(C) They are primarily divided between interactional and mediated types.
(D) They are solely explained by message design principles.

Direction : Please read the following source carefully.

The concept of development has evolved significantly from its early conceptualization, which was largely synonymous with economic growth measured by metrics like Gross National Product (GNP). Modern theories and models of development advocate for a more holistic and multidimensional perspective, recognizing that human well-being encompasses more than just economic prosperity. This expanded view integrates social, political, cultural, and environmental dimensions into the definition of progress. Consequently, the measurement of development has also shifted. While economic indicators remain relevant, they are now complemented by a range of composite indicators designed to provide a more comprehensive assessment. For instance, the Human Development Index (HDI) combines measures of life expectancy, education, and income to rank countries on a spectrum of human development. Other indicators focus on aspects like gender equality, environmental sustainability, and political freedom. This theoretical shift underscores the understanding that true development must be people-centered, equitable, and sustainable. The choice of specific

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(C) It uses only print media and avoids radio or television.
(D) It is primarily concerned with generating profit for media houses.

273. According to the text, why is radio an important medium for development communication?
(A) It offers the most interactive platform for user engagement.
(B) It is best suited for detailed articles and in-depth case studies.
(C) It is primarily used for mobilizing social action through visuals.
(D) It can reach remote and low-literacy populations effectively.

274. The passage suggests that effective writing for development involves which of the following?
(A) Adapting messages and formats for specific media like radio and TV.
(B) Using the same message format across all media platforms.
(C) Prioritizing entertainment value over educational content.
(D) Limiting communication to a top-down flow of information.

275. Which phrase best captures the overall role of communication in development as described in the source?
(A) A tool for authoritarian control.
(B) A channel solely for entertainment.
(C) A mechanism for informing, educating, and mobilizing.
(D) A method for promoting commercial products.

Direction : Please read the following source carefully.

Development communication is not a monolithic practice but a field that addresses a wide spectrum of specific and interconnected concerns crucial for holistic societal progress. These concerns represent thematic areas where targeted communication interventions are essential. A primary concern is gender, where communication is used to challenge discriminatory norms, promote equality, and empower women. In the realm of health, communication campaigns are vital for promoting preventive care, disseminating information about diseases, and encouraging healthy behaviors. Environmental communication addresses the urgent need for sustainability, advocating for conservation, and raising awareness about climate change impacts. Similarly, issues of human rights are advanced through communication that exposes violations and mobilizes public support for justice and freedom. Other critical areas include population management, where communication helps in family planning education, and literacy, which is both a goal and a facilitator of development communication itself. Furthermore, the distinct challenges of rural and tribal development demand context-specific communication strategies that respect indigenous knowledge and cultural sensitivities. Effectively addressing these concerns requires moving beyond generic messaging to design nuanced, culturally appropriate communication that speaks directly to the communities involved and tackles the structural barriers to their well-being and empowerment.

Based on the above source, attempt the following five questions.

276. According to the passage, how does development communication address the concern of gender?
(A) By challenging discriminatory norms and promoting equality.
(B) By reinforcing traditional gender roles.
(C) By focusing only on the health of women.
(D) By limiting women's access to communication channels.

277. The passage suggests that communication strategies for rural and tribal development must be:
(A) Identical to those used in urban areas.
(B) Designed to replace indigenous knowledge with modern information.
(C) Generic and applicable to all contexts universally.
(D) Context-specific and respectful of cultural sensitivities.

278. Which of the following is presented as both a goal of and a facilitator for development communication?
(A) Population management.
(B) Literacy.
(C) Environmental sustainability.
(D) Human rights advocacy.

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countries in the modern era.

241. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : In Behavior Change Communication, a 'fear appeal' message must be used with caution.
Reason (R) : If a fear appeal is too strong and does not provide a clear, achievable solution (high efficacy), it can lead to message rejection or denial rather than the desired behavior change.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

242. The defining feature of 'participatory video' is:
(A) The process is controlled by the community members themselves.
(B) High-end production quality suitable for film festivals.
(C) The video is made by external experts about a community.
(D) The final product is never shown to anyone.

243. The "Kheda Communications Project" in India is a classic historical example of:
(A) A purely commercial media venture.
(B) A national newspaper campaign.
(C) Using satellite television for local, needs-based developmental programs.
(D) An international advocacy project.

244. A researcher wants to compare the median income of three different villages. Since income data is often skewed and not normally distributed, which non-parametric test would be most appropriate?
(A) One-way ANOVA
(B) Independent samples t-test
(C) Chi-square test
(D) Kruskal-Wallis test

245. The statement "The map is not the territory" is a useful analogy for the communication principle that:
(A) Communication is always accurate and objective in its representation of reality.
(B) Physical maps are useless for any form of human communication or messaging.
(C) All communication is verbal and relies on literal translations between people.
(D) Symbols are not the things they represent; their meaning is in people.

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246. Which of the following is NOT a level (setting) of communication transaction?
(A) Interpersonal
(B) Mechanical
(C) Group
(D) Mass

247. The "empowerment" model of development communication is primarily focused on:
(A) Providing communities with material resources without any training or education.
(B) Persuading communities to adopt practices decided exclusively by external experts.
(C) Creating a permanent state of dependency on various forms of outside aid.
(D) Enhancing communities' capacity to identify problems and take collective action.

248. In the context of media for development, what does ICT stand for?
(A) Information and Communication Technology
(B) Inter-Community Theatre
(C) Institutional Capacity Training
(D) International Communication Tribunal

249. Which of the following is a primary activity of a 'National' level development communication agency like the Directorate of Advertising and Visual Publicity (DAVP) in India?
(A) Regulating international media.
(B) Providing funds for development projects in other countries.
(C) Communicating government programs to the public through various media.
(D) Running a single community radio station in one remote village.

250. The analysis of data through parametric tests like the t-test and ANOVA requires that the data be at least on which scale of measurement?
(A) Interval or Ratio
(B) Nominal

(D) Disregarding theoretical models in favor of practical application.

Direction : Please read the following source carefully.

The choice of media is a critical strategic decision in development communication, with a spectrum ranging from traditional to modern and new media. Traditional media, deeply rooted in local culture, include folk forms such as songs, art, dance, theatre, and puppetry. Their strength lies in their cultural resonance, credibility, and ability to engage communities in a familiar and participatory manner. Modern mass media like advertisement and cinema, on the other hand, offer the advantage of scale, reaching vast and diverse audiences with professionally produced messages, though they can be costly and less participatory. The emergence of new media, particularly Information and Communication Technologies (ICTs) for development, has introduced a paradigm of interactivity and user-generated content. Community radio, for example, empowers local communities by giving them a voice and a platform to discuss local issues in their own language. Participatory video enables groups to document their own realities and advocate for change. Social media and mobile phones have further revolutionized development communication by facilitating rapid information sharing, network building, and social mobilization. An effective development strategy often involves an integrated approach, leveraging the unique strengths of different media—the cultural rootedness of traditional forms, the reach of modern media, and the interactive potential of new ICTs.

Based on the above source, attempt the following five questions.

286. According to the passage, what is the primary strength of using traditional media like folk theatre and puppetry for development?
(A) Their ability to reach vast, diverse audiences globally.
(B) Their low cost compared to all other media forms.
(C) Their capacity for user-generated content and interactivity.
(D) Their cultural resonance and participatory nature.

287. Community radio and participatory video are presented as examples of ICTs that primarily:
(A) Offer the scale and reach of modern cinema.
(B) Rely on professionally produced advertisement messages.
(C) Empower local communities by giving them a voice.
(D) Are rooted in ancient folk forms like dance and song.

288. Which media category is described as offering the advantage of scale and reaching vast audiences, though often at a higher cost?
(A) Traditional media.
(B) Modern mass media like cinema.
(C) Folk forms.
(D) New interactive media.

289. The passage contrasts modern mass media with traditional media by highlighting that modern media are generally:
(A) More participatory and culturally resonant.
(B) Less costly and easier to produce.
(C) Exclusively used for community empowerment.
(D) Less participatory but have a broader reach.

290. What does the passage suggest is an effective overall strategy for using media in development?
(A) Integrating different media to leverage their unique strengths.
(B) Relying exclusively on the newest ICTs like social media.
(C) Discarding traditional media in favor of modern mass media.
(D) Using only one type of media to ensure message consistency.

Direction : Please read the following source carefully.

The field of development communication is supported by a complex ecosystem of organisations and agencies operating at various levels, from the global to the local. At the international level, agencies like UNESCO, UNICEF, and the World Bank often play a significant role in setting agendas, funding initiatives, and promoting global norms and best practices in development communication. They provide technical assistance and resources to national governments and other partners. At the national

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279. Based on the passage, what is the overarching requirement for effectively addressing the various concerns of development communication?
(A) Employing generic messaging for wide reach.
(B) Focusing communication efforts solely on health issues.
(C) Designing nuanced and culturally appropriate interventions.
(D) Prioritizing environmental concerns over human rights.

280. A communication campaign aimed at promoting conservation and raising awareness about climate change would fall under which concern mentioned in the text?
(A) Gender.
(B) Health.
(C) Population.
(D) Environment and sustainability.

Direction : Please read the following source carefully.

Within development communication, Advocacy and Behavior Change Communication (BCC) are two critical approaches for fostering social change. Advocacy primarily targets policymakers, leaders, and social structures to create a more supportive environment for change by influencing laws, policies, and resource allocation. Behavior Change Communication, conversely, focuses on individuals and communities, aiming to influence their knowledge, attitudes, and practices to encourage the adoption of healthy and beneficial behaviors. The application of both approaches is guided by established theories and models. For instance, BCC often draws on the Health Belief Model or the Stages of Change Model to understand an individual's readiness to act and to tailor messages accordingly. Advocacy may use models that map out political power and influence to identify strategic levers for change. The application of these approaches faces significant challenges, including socio-cultural resistance, lack of political will, and the difficulty of measuring long-term impact. A key challenge is ensuring that BCC interventions are not merely trying to change individual behaviors in a vacuum but are supported by the structural changes pursued through advocacy, creating a synergistic effect where an enabling environment and individual motivation reinforce each other.

Based on the above source, attempt the following five questions.

281. What is the primary target audience for advocacy, as described in the passage?
(A) Policymakers, leaders, and social structures.
(B) Individuals and communities at the grassroots level.
(C) Media organizations and journalists.
(D) International funding agencies exclusively.

282. Behavior Change Communication (BCC) is described as primarily aiming to:
(A) Influence laws and resource allocation.
(B) Change individual and community knowledge, attitudes, and practices.
(C) Map out political power and influence structures.
(D) Create a supportive environment for policymakers.

283. The passage mentions the Health Belief Model and the Stages of Change Model as examples of theoretical frameworks used in:
(A) Advocacy.
(B) Behavior Change Communication (BCC).
(C) Policy analysis.
(D) Measuring resource allocation.

284. According to the text, what is a significant challenge in the application of advocacy and BCC?
(A) The existence of socio-cultural resistance and lack of political will.
(B) The complete absence of theoretical models to guide practice.
(C) The overemphasis on individual change without considering the environment.
(D) The ease and simplicity of measuring long-term impact.

285. The passage suggests that the most effective approach to social change involves:
(A) Focusing solely on advocacy to change policies.
(B) Focusing solely on BCC to change individual behaviors.
(C) Creating a synergy between advocacy's structural changes and BCC's individual focus.

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While they are less powerful, they are more robust as they do not require the same strict assumptions about the population distribution, making them indispensable tools for the analysis of much of the real-world data gathered in communication studies.

Based on the above source, attempt the following five questions.

296. According to the passage, when is it appropriate to use a parametric test like a t-test?
(A) When the data is measured on an ordinal scale.
(B) When the population data is not normally distributed.
(C) When the sample size is very small and the distribution is unknown.
(D) When the assumptions of normal distribution and homogeneity of variance are met.

297. Non-parametric tests are described as being more robust because they:
(A) Do not require strict assumptions about the population distribution.
(B) Are significantly more powerful than parametric tests.
(C) Require the data to be perfectly normally distributed.
(D) Are only used for data measured on an interval scale.

298. A researcher has collected data on community satisfaction ranked on a scale of 'very unsatisfied' to 'very satisfied'. The data is not normally distributed. Which type of test would be most suitable for analysis?
(A) A parametric test, because the data is quantitative.
(B) A non-parametric test, because the data is ranked (ordinal) and not normally distributed.
(C) An ANOVA, because it is the most powerful test available.
(D) A t-test, because the researcher wants to compare group means.

299. What is a key difference highlighted between parametric and non-parametric tests?
(A) Parametric tests are used for qualitative data, while non-parametric tests are for quantitative data.
(B) Parametric tests are generally more powerful but have stricter requirements.
(C) Non-parametric tests are more powerful but have stricter requirements.
(D) There is no significant difference in their application or requirements.

300. The passage mentions the Chi-square test and Mann-Whitney U test as examples of:
(A) Non-parametric tests.
(B) Parametric tests.
(C) Data collection methods.
(D) Assumptions for normal distribution.

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ANSWERS

1. (B) A dynamic, two-way process of exchanging and understanding messages and ideas.
Communication represents more than a simple transmission of facts between individuals. It functions as a continuous and evolving exchange where participants act as both senders and receivers to achieve mutual understanding. This dynamic interaction involves encoding and decoding messages within specific social contexts. Rather than being a static or linear occurrence, it requires active engagement from all parties involved to create shared meaning and foster relationships.

2. (D) Statement I is false, but Statement II is true.
Human communication serves a broad spectrum of purposes beyond the mere delivery of information or educational content. It plays a vital role in persuading audiences, providing entertainment, and facilitating social integration within a community. Furthermore, it is instrumental in promoting cultural values and sustaining social norms. Recognizing that it encompasses diverse objectives helps in understanding its complex nature and its significant impact on individual and collective behavior.

3. (C) Feedback is an optional and often unnecessary component of the process.
In any effective communication cycle, feedback is a fundamental component rather than a secondary or unnecessary addition. It allows the sender to verify if the message was understood as intended and enables the receiver to seek clarification. Without this loop, the process remains one-sided, increasing the likelihood of misunderstandings. It ensures that the interaction is truly transactional and provides a mechanism for continuous improvement in messaging.

4. (D) Psychological barrier
Communication can be hindered by various internal factors residing within the minds of the participants. When a receiver's unique personal beliefs, values, or past experiences interfere with the accurate reception of a message, it creates a significant obstacle. These internal filters can lead to biased interpretations or total rejection of information. Addressing these mental blocks is crucial for ensuring that the intended meaning is accurately conveyed.

5. (C) The process of selecting, organizing, and interpreting sensory data for meaning.
Human perception involves a complex mental process where individuals filter environmental stimuli to create a unique version of reality. It begins with selecting specific information, followed by organizing it into recognizable patterns, and finally interpreting it based on personal experiences. This process explains why different people may derive various meanings from the same message. Understanding this mechanism is essential for communicators to anticipate how their messages will be received.

6. (B) The process of influencing attitudes, beliefs, or behaviors through messages.
Persuasion serves as a strategic communicative effort aimed at shifting or reinforcing the viewpoints and actions of others. It relies on the use of logical arguments, emotional appeals, or credible sources to achieve its goals. Unlike coercion, it respects the receiver's autonomy while guiding them toward a specific conclusion. This process is central to many fields, including advertising, public health campaigns, and social advocacy for development.

7. (D) Sympathy involves feeling sorry for others, while empathy involves sharing their feelings.
Understanding the distinction between these two concepts is vital for effective interpersonal interactions. Sympathy is characterized by feeling compassion or pity for another person's hardships from an external perspective. In contrast, empathy requires a deeper connection where one attempts to understand and share the actual internal emotions of another. While sympathy maintains a distance, empathy builds a bridge of shared experience, which is essential for participatory development.

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8. (A) Interpersonal communication
When communication takes place directly between two individuals, it is categorized as a specific level of interaction. This form allows for the highest degree of intimacy, immediate feedback, and the use of both verbal and non-verbal cues. It is a fundamental building block of social relationships and is highly effective for conflict resolution and personal counseling. Because it involves direct exchange, it allows for personalized messaging and deep mutual understanding.

9. (C) Persuading
Listening is a multi-staged cognitive and physical process that involves more than just hearing sounds. It encompasses receiving the stimulus, understanding the intended meaning, remembering the information, evaluating the content, and providing a response. While persuasion may be a goal of a subsequent communication act, it is not a functional stage of the listening process itself. Mastering these stages is necessary for effective comprehension and building trust during interactions.

10. (A) P-3, Q-1, R-4, S-2
Lasswell's model focuses on the linear sequence of who says what through which channel. The Shannon-Weaver model emphasizes the mathematical aspect, specifically how noise disrupts message transmission between the source and transmitter. Schramm introduces the field of experience, highlighting that effective communication requires a shared background. Berlo's SMCR model examines the attributes of the source, message, channel, and receiver. These models collectively illustrate the evolution of communication theory.

11. (D) Uses and Gratifications Theory
This theoretical framework shifts the focus from what media do to people to what people do with media. It posits that individuals are active consumers who choose specific media content to satisfy their psychological and social needs. Whether seeking information, personal identity, social interaction, or entertainment, the audience members are seen as goal-oriented. This perspective is vital for development communicators when designing content that resonates with the audience's motivations.

12. (B) Media tells people what to think about by determining issue salience.
Media organizations play a powerful role in shaping public perception by selecting which news stories to emphasize. This theory suggests that by giving frequent and prominent coverage to specific issues, the media influences the public to perceive those topics as the most important. While media may not dictate specific opinions, they effectively set the public agenda. Understanding this process is crucial for advocates who seek to bring development issues to the forefront.

13. (A) Both A and R are true and R is the correct explanation of A.
Communication and culture are deeply interconnected, as the former acts as the primary vehicle for the latter. Every society develops its own communication systems that reflect its unique values, norms, and historical context. These cultural elements dictate how messages are constructed and understood by members of that group. Consequently, communication interventions must be culturally sensitive to be effective, as the success of any message depends on its alignment with cultural frameworks.

14. (D) Social Learning Theory
Humans often acquire new behaviors, attitudes, and emotional reactions by observing the actions of others within their environment or through media portrayals. This theory emphasizes the importance of modeling and imitation in the learning process. When individuals see others rewarded for certain behaviors, they are more likely to adopt those behaviors themselves. In development communication, this principle is often applied through entertainment-education to promote positive social changes and healthy lifestyle choices.

15. (A) To acknowledge opposing views and refute them to increase credibility.
A two-sided message is a sophisticated communication strategy that presents both the communicator's position and the counterarguments. By acknowledging and then effectively refuting opposing viewpoints, the sender appears more honest, knowledgeable, and objective. This approach is particularly effective with audiences that are well-informed or initially disagree with the message. It helps in building

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central to the state's efforts to communicate with its citizens on development issues.

45. (C) Parametric test
Statistical analysis often relies on parametric tests when the data follows specific assumptions about the underlying population distribution. These tests assume that the data is drawn from a normally distributed population and typically require interval or ratio scales of measurement. By making these assumptions, parametric methods generally provide more statistical power to detect differences or relationships. They are essential tools for researchers seeking to draw precise inferences from quantitative datasets in communication and development studies.

46. (D) Chi-square test
Non-parametric tests are valuable statistical tools used when data does not meet the strict assumptions of parametric tests. The Chi-square test specifically examines the association between categorical variables or determines if an observed distribution fits an expected one. Unlike t-tests or ANOVA, it does not assume a normal distribution of the data. This makes it ideal for analyzing nominal data, such as gender or media preference, which is common in social science and development communication research.

47. (A) Independent samples t-test
When a researcher needs to compare the average scores of two distinct and unrelated groups, the independent samples t-test is the standard parametric method. This test determines if the difference between the two means is statistically significant or simply due to chance. It requires that the data be normally distributed and measured on a continuous scale. This approach is frequently used to evaluate the impact of a communication intervention by comparing an experimental group with a control group.

48. (B) A communicated message, once received, cannot be taken back.
The principle of irreversibility highlights the permanent impact of communication once it has occurred. Even if an individual tries to apologize or correct a statement, the original message has already influenced the receiver's thoughts or feelings. This emphasizes the importance of careful message design and the potential long-term consequences of communication. In development contexts, this means that misinformation or harmful messages can have lasting negative effects on community trust and behavior that are difficult to undo.

49. (A) Both Statement I and Statement II are true.
Communication barriers can take many forms, including semantic and physical obstacles. Semantic barriers occur when the sender and receiver attach different meanings to words, leading to confusion. Physical barriers involve environmental factors like noise or distance that interfere with the transmission of the message. Both types of barriers can significantly hinder the effectiveness of an interaction. Identifying and addressing these issues is essential for ensuring that development messages are accurately received and understood by the target audience.

50. (A) (c), (d), (e), (a), (b)
The listening process involves a sequence of cognitive steps starting with the physical reception of sound. Once received, the listener must understand the message by assigning meaning to the sounds. The information is then stored in memory for future use. Evaluation involves critically analyzing the message's content and intent. Finally, the listener provides a response to complete the interaction. Following these stages accurately is crucial for effective comprehension and meaningful communication in any social or professional setting.

51. (C) Media messages are like bullets, directly and uniformly injected into the minds of a passive audience.
This early theory of mass communication portrayed the audience as a defenseless and uniform mass. It suggested that media messages had a direct and immediate impact on people's thoughts and behaviors, much like a bullet or an injection. This perspective assumed that receivers were passive and that the sender had total control over the outcome of the communication. While largely discredited today, it reflects the initial concerns about the overwhelming power of mass media.

52. (D) Any factor that interferes with message transmission or reception.

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Social marketing applies the systematic principles of commercial marketing to achieve specific social goals. Rather than selling a physical product for profit, it seeks to influence behaviors that benefit the individual and society as a whole. This includes promoting health practices, environmental protection, or social justice. By analyzing audience needs and barriers, social marketers design interventions that make the desired behavior more attractive and accessible, leading to long-term and sustainable social improvements.

24. (A) Persuasion (the communication tactic used)
The social marketing framework relies on four core components to influence behavior effectively. The product refers to the desired behavior change itself. Price represents the various costs or barriers the audience must overcome to adopt that behavior. Place involves the locations where the behavior is performed or where services are accessed. Promotion consists of the communication strategies used to reach the audience. While persuasion is a goal, it is not considered a separate "P".

25. (C) To facilitate participation, raise awareness, and enable social change.
Communication is a vital tool in the development process because it bridges the gap between planners and communities. It fosters active participation by giving people a voice in decisions that affect their lives. By raising awareness about important issues and potential solutions, communication empowers individuals to take action. Ultimately, it serves as a catalyst for social change, helping to transform attitudes and behaviors that contribute to sustainable development and improved well-being.

26. (A) In-depth, critical reporting on development processes, issues, and policies.
Development journalism involves a purposeful focus on reporting stories that impact the long-term progress of a society. Unlike traditional news that may focus on immediate events, it provides context and analysis of development projects and policies. It seeks to give a voice to the marginalized and hold authorities accountable for their development promises. This form of journalism is essential for creating an informed citizenry capable of participating meaningfully in the nation's growth and development.

27. (D) Writing in a conversational, easy-to-understand style suitable for being heard.
Radio is a unique medium that relies entirely on sound, requiring scripts to be written specifically for the ear. Effective radio writing uses short sentences, simple language, and a conversational tone to maintain the listener's attention. Since listeners cannot go back to re-read a sentence, clarity and repetition of key points are essential. This approach makes information accessible to diverse audiences, including those with low literacy, making radio a powerful tool for rural development.

28. (B) The need to create engaging, concise, and shareable content for short attention spans.
Writing for internet audiences requires a different approach due to the unique way people consume digital content. Users often scan pages quickly, so information must be presented in a concise and visually engaging manner. Content needs to be easily shareable on social platforms to increase its reach and impact. Managing short attention spans while providing accurate and meaningful development information is a significant challenge for digital communicators seeking to engage modern, tech-savvy audiences.

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29. (A) Both A and R are true and R is the correct explanation of A.
Gender equality is a fundamental component of sustainable development, and communication plays a vital role in achieving it. Interventions can challenge deeply ingrained stereotypes and promote more equitable social norms. By ensuring that women's perspectives and voices are included in development planning, communication helps to empower them and improve their status. This inclusive approach leads to better development outcomes, as it addresses the needs and potential of the entire population regardless of gender.

30. (D) To encourage behaviors that reduce the risk of future illnesses.
Preventive health communication focuses on empowering individuals to take proactive steps to maintain their health and avoid disease. These campaigns promote behaviors such as regular exercise, healthy eating, vaccinations, and routine

screenings. By focusing on prevention rather than just treatment, these initiatives reduce the overall burden on the healthcare system and improve long-term community well-being. The primary goal is to shift public focus toward sustaining health through informed lifestyle choices and early intervention.

31. (A) Promote awareness of ecological issues and foster pro-environmental behaviors.
Communication for environmental sustainability aims to educate the public about the critical challenges facing the planet. It seeks to inspire individuals and communities to adopt more sustainable lifestyles, such as reducing waste and conserving energy. By framing environmental issues in a way that resonates with personal values, these campaigns can drive significant social change. The ultimate goal is to foster a culture of stewardship where people take responsibility for protecting natural resources for future generations.

32. (B) A process that emphasizes participation, non-discrimination, and accountability.
A human rights-based approach to development communication ensures that the process itself respects the fundamental dignity of all people. It prioritizes the inclusion of marginalized groups and ensures that information is accessible to everyone without discrimination. This framework also emphasizes the accountability of duty-bearers to provide accurate information and respond to the needs of the community. By focusing on rights, this approach empowers individuals to claim their entitlements and participate actively in development.

33. (B) Mobile phones
Mobile phones have revolutionized development communication by providing a low-cost, portable, and interactive platform for information exchange. They allow for the rapid dissemination of health alerts, market prices, and educational content to even the most remote areas. Through text, voice, and data services, mobile technology facilitates two-way communication and empowers individuals to access information and services previously out of reach. This makes them a cornerstone of modern, technology-driven development initiatives across the globe.

34. (A) Traditional media for development
Street theatre is a powerful form of folk media that uses live performance to engage communities on important social issues. Because it is performed in public spaces and uses local languages and cultural references, it is highly accessible and relatable. This traditional approach bypasses literacy barriers and allows for immediate audience interaction and reflection. It remains an effective tool for raising awareness and sparking dialogue in rural and urban settings where modern media may be less impactful.

35. (C) A strategic process of influencing decision-makers to support a specific cause.
Advocacy in development communication involves targeted efforts to change policies, laws, or resource allocations. It uses evidence-based arguments and strategic communication to persuade those in power to take action on social or developmental issues. Unlike general awareness campaigns, advocacy is focused on achieving systemic change through direct engagement with policymakers and influencers. This process is essential for securing the political commitment and institutional support necessary for long-term and sustainable social progress in various sectors.

36. (D) The Health Belief Model
This psychological model provides a framework for understanding why individuals do or do not adopt preventive health behaviors. It suggests that a person's motivation is driven by their perception of the threat of a disease and the benefits of taking action. Factors such as perceived susceptibility and the barriers to change play a critical role in the decision-making process. Development communicators use this model to design messages that address these specific perceptions to encourage healthier behaviors.

37. (C) Ingrained cultural norms and social behaviors can be resistant to change.
One of the most significant challenges in behavior change programs is the strength of existing cultural practices. Deeply rooted traditions and social expectations often influence individual actions more than new information. Overcoming these barriers requires a deep understanding of the local context and a long-term commitment to engagement. Successful programs must work

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within the cultural framework to find ways to align new, healthier behaviors with existing values and norms, ensuring sustainable change.

38. (B) Preparation
In the transtheoretical model, individuals move through various stages before successfully changing a behavior. The preparation stage is characterized by a commitment to take action in the very near future, often within the next month. During this time, people may start taking small steps, such as seeking information or making a plan. Understanding this stage allows communicators to provide the specific support and resources needed to help individuals transition from intention to actual behavioral change.

39. (D) Culturally familiar, engaging, and can bypass literacy barriers.
Folk media forms like puppetry and song are deeply embedded in the cultural fabric of many communities. Their familiarity makes them highly effective for conveying complex social messages in an engaging and non-threatening way. Because they rely on oral and visual storytelling, they are accessible to individuals regardless of their literacy levels. This makes them invaluable tools for development communication in rural areas, where they can effectively raise awareness and foster community dialogue on important issues.

40. (B) P-3, Q-4, R-2, S-1
International organizations have distinct focus areas within development communication. UNESCO promotes education, culture, and freedom of expression. UNICEF focuses on the rights and well-being of children through targeted communication strategies. The FAO uses communication to advance agricultural and rural development goals. The WHO is the lead agency for global health communication, addressing disease prevention and health promotion. These agencies provide technical expertise and funding to support development initiatives across various sectors and countries.

41. (C) It is operated by and for the community, focusing on local issues and content.
Community radio is defined by its commitment to serving the specific needs and interests of a local population. It provides a platform for community members to participate in program production and share their own stories and concerns. By broadcasting in local dialects and addressing local issues, it fosters a sense of ownership and social cohesion. This participatory approach makes community radio a powerful tool for localized development, empowering people to address the challenges that directly affect them.

42. (A) Community members learn to use video to tell their own stories and advocate.
Participatory video is a process-oriented tool that empowers marginalized communities to document their own lives and perspectives. By learning to use video technology, community members can create content that reflects their unique challenges and aspirations. This process fosters self-reflection, builds confidence, and provides a powerful medium for advocacy. The resulting videos can be used to spark dialogue within the community or to communicate their needs to external policymakers, making it an effective tool for social change.

43. (D) The World Bank
As an international financial institution, the World Bank plays a major role in global development by providing loans and technical assistance to developing countries. It uses communication strategies to share research findings, promote its development goals, and engage with stakeholders. Its work spans multiple sectors, including health, education, and infrastructure, making it a key player at the international level. Understanding the role of such agencies is important for comprehending the global landscape of development communication and funding.

44. (B) Prasar Bharati (which includes All India Radio and Doordarshan)
Prasar Bharati serves as India's public service broadcaster, operating at the national level to provide information, education, and entertainment to the entire country. Through its networks, it reaches millions of people, making it a critical tool for national-scale development communication. It carries government messages on public health, agriculture, and social welfare, ensuring that essential information reaches diverse populations across the nation. Its role is

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long-term credibility and makes the audience more resistant to future counter-persuasion, which is vital for sustained social change.

16. (B) A multi-dimensional process of change aimed at improving human well-being.
Modern views of development transcend simple economic metrics like income growth. It is now understood as a holistic process involving significant improvements in social structures, popular attitudes, and national institutions. The ultimate goal is to enhance the quality of life for all individuals by expanding their choices and capabilities. This multi-dimensional approach includes progress in health, education, environmental sustainability, and political freedom, moving beyond the limitations of purely financial measures of growth.

17. (C) Statement I is true, but Statement II is false.
Measuring development requires a comprehensive set of indicators that go beyond traditional economic statistics. While the Human Development Index successfully combines life expectancy, education, and income to provide a broader picture, economic indicators alone remain insufficient. Modern development practice recognizes that social, environmental, and political factors are equally important. Therefore, a purely economic focus fails to capture the true progress of a nation in improving the overall well-being and freedom of its citizens.

18. (A) It views development as a linear progression from 'traditional' to 'modern' society.
Modernization theory posits that all societies pass through similar stages of growth on their path to becoming modern. It emphasizes the adoption of Western technology, industrialization, and secular values as key drivers of progress. This framework suggests that underdeveloped nations can achieve success by following the historical path of developed countries. Although influential, it has faced criticism for ignoring local cultural contexts and the complex structural barriers that many developing nations face today.

19. (C) The underdevelopment of 'peripheral' nations results from economic exploitation.
This theory argues that the global economic system is structured in a way that benefits wealthy core nations at the expense of poorer peripheral nations. It suggests that underdevelopment is not a natural stage but a condition created by historical and ongoing exploitation. Wealth flows from the periphery to the core, maintaining a state of dependency. To achieve true development, this perspective advocates for structural changes to the international system rather than mere internal modernization.

20. (A) (a), (b), and (c)
The evolution of development communication has seen a shift from the dominant paradigm, which relied on top-down information flow, to more inclusive frameworks. Participatory models introduced the necessity of horizontal dialogue, ensuring that community voices are central to the process. The empowerment model further emphasizes building the capacity of communities to solve their own problems. These approaches acknowledge that development is context-specific and requires different strategies depending on the social and cultural environment.

21. (C) How new ideas, practices, and technologies spread through social systems.
This theory explores the process by which an innovation is communicated through various channels over time among members of a community. It identifies key factors that influence the rate of adoption, such as the innovation's relative advantage and compatibility with local values. By understanding how different groups, from innovators to laggards, respond to change, development communicators can design better strategies. This framework remains a cornerstone for introducing new agricultural, health, and environmental practices.

22. (B) Late Majority
Individuals in this category are characterized by a skeptical approach toward new innovations. They typically wait to adopt a new practice until the majority of their social group has already done so, often due to economic necessity or increasing social pressure. Their adoption is driven more by the observed success of others rather than their own desire for change. Understanding this group is important for development projects that require widespread community participation to be successful.

23. (D) Social Marketing

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In communication theory, noise is a broad term that encompasses more than just physical sound. It includes any interference that distorts the message as it travels from the source to the receiver. This can include technical issues with a medium, psychological distractions in the receiver's mind, or semantic misunderstandings due to language differences. Recognizing the various types of noise is essential for communicators to design strategies that minimize these disruptions and ensure clear, effective message delivery.

53. (C) (a), (c), and (e)
Communication is a complex and evolving process that is fundamentally dynamic and context-dependent. It involves both verbal and non-verbal elements and is considered irreversible because once a message is shared, its impact cannot be completely erased. Furthermore, every communication act is unique and cannot be repeated exactly. Understanding these core characteristics helps in developing more effective communication strategies that account for the social environment and the permanent nature of the interaction between the sender and the receiver.

54. (B) People voice opinions more if they believe they are in the majority.
This theory explores how perceived public opinion influences individual willingness to speak out. It suggests that individuals who feel their views are in the minority may remain silent to avoid social isolation. Conversely, those who believe they hold the majority view are more likely to express their opinions loudly. This process can create a spiral where certain viewpoints dominate the public sphere while others disappear. Understanding this dynamic is important for ensuring diverse voices are heard.

55. (D) Ensuring the provision of food, shelter, healthcare, and education.
This approach to development prioritized meeting the fundamental physical and social requirements of the poorest populations. It shifted the focus away from purely economic growth to ensuring that everyone had access to essential services and resources. This model recognized that without health, education, and adequate living conditions, sustainable progress is impossible. This perspective helped to broaden the definition of development and influenced international aid policies to focus on poverty reduction and human well-being as primary goals.

56. (A) Participatory Communication - Wilbur Schramm
While Wilbur Schramm was a pioneering figure in communication studies, he is primarily associated with interactive and mass communication models rather than the specific participatory paradigm. Other theorists are correctly paired with their influential works: Walt Rostow with modernization, Andre Gunder Frank with dependency theory, and Everett Rogers with the diffusion of innovations. Identifying these key intellectual contributions is essential for understanding the theoretical foundations of development communication and how different perspectives have shaped the field over time.

57. (C) The Diffusion of Innovations Theory
The use of opinion leaders and practical trials is a hallmark of the strategy described in this theory. It posits that individuals are more likely to adopt a new practice when they see it successfully used by trusted members of their own community. By focusing on influential early adopters, development projects can create a ripple effect that leads to wider community acceptance. This approach acknowledges the importance of social networks and interpersonal communication in facilitating the spread of new ideas and technologies.

58. (A) To act as a tool for transferring information and persuading people to adopt modern attitudes.
In the dominant paradigm, mass media were seen as powerful agents of modernization. They were used to disseminate information from central authorities to the masses, with the goal of encouraging the adoption of new, "modern" behaviors and values. This top-down approach viewed the audience as passive recipients of expert knowledge. While efficient for large-scale information delivery, this model often failed to account for local cultural contexts and the importance of two-way dialogue in achieving sustainable development.

59. (A) Both A and R are true and R is the correct explanation of A.

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Audience segmentation is a critical strategy in social marketing that involves dividing a broad population into smaller, more homogeneous groups. This allows communicators to create tailored messages that speak directly to the unique needs, beliefs, and behaviors of each segment. By addressing specific barriers and motivations, segmented campaigns are significantly more effective than a one-size-fits-all approach. This strategic focus ensures that resources are used efficiently and that development messages resonate more deeply with diverse target audiences.

60. (B) Humanize complex issues by telling personal stories of affected individuals.
Effective development writing for print media involves making abstract issues relatable to the reader. By focusing on the lived experiences of individuals, journalists can illustrate the real-world impact of development policies and projects. This human-centered approach engages the audience emotionally and helps them understand complex systemic challenges. Rather than relying on technical data alone, telling personal stories makes development news more compelling and encourages public empathy and support for social change and development initiatives.

61. (C) Promoting luxury consumer goods
Development communication is fundamentally concerned with improving the well-being of society and addressing social challenges. Its primary focus areas include health, environment, education, and human rights. Promoting luxury consumer goods falls under commercial advertising and is generally not an objective of development projects. Instead, development communication seeks to empower individuals and communities to overcome poverty, inequality, and other barriers to progress. Its goals are social and developmental rather than purely commercial or profit-oriented in nature.

62. (D) Literacy and gender
A campaign focused on girls' education directly addresses two interconnected development concerns. Literacy is essential for individual empowerment and national progress, while gender equality ensures that girls have equal access to these opportunities. By promoting secondary education for girls, these initiatives help to break the cycle of poverty and improve health and economic outcomes for future generations. This focus reflects the understanding that educating women is one of the most effective ways to drive sustainable and equitable development.

63. (A) Compromising the ability of future generations to meet their own needs.
Sustainability is a core principle of modern development that emphasizes long-term viability. It requires that current development activities do not deplete natural resources or damage the environment in a way that harms the future. This approach balances economic growth with social equity and environmental protection. In communication, this means building the capacity of local communities to maintain development outcomes long after a project has ended, ensuring that progress is both enduring and responsible for the planet.

64. (B) BCC targets behaviors, while Advocacy targets policies and decision-makers.
While both are important tools in development communication, they serve different strategic purposes. Behavior change communication focuses on influencing the individual and community actions that affect well-being, such as health practices. Advocacy, on the other hand, seeks to change the systemic environment by influencing laws, policies, and resource allocations. Understanding this distinction is crucial for designing comprehensive development programs that address both individual behaviors and the broader social and political structures that influence them.

65. (B) ICTs for development
Using mobile phones to share educational videos is a prime example of leveraging information and communication technologies for social progress. This approach allows for the low-cost and rapid dissemination of localized information among community members. It promotes peer-to-peer learning and empowers individuals to access and share knowledge within their own social networks. By using familiar technology, this strategy makes development information more accessible and engaging, demonstrating the potential of digital tools to support sustainable agricultural and social practices.

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66. (A) Information and Communication Technologies
This term encompasses a wide range of technological tools and resources used to transmit, store, and manage information. In development, it includes everything from traditional radio and television to modern computers, the internet, and mobile phones. These technologies are used to bridge the information gap, improve access to services, and empower marginalized communities. Understanding the role of these tools is essential for modern development communication, as they provide new opportunities for participation, education, and social change.

67. (A) (a), (b), and (c)
Traditional folk media are powerful development tools because they are deeply rooted in local culture and provide a familiar platform for communication. They allow for personalized and localized messaging that resonates with the community's values and experiences. These forms can also be effectively integrated with modern media to reach wider audiences. Because they rely on oral traditions, they are particularly useful in areas with low literacy, making them a highly credible and engaging medium for promoting social change.

68. (D) Chi-square test of independence
When a researcher needs to determine if there is a significant association between two categorical variables, the Chi-square test of independence is the most appropriate non-parametric tool. This test compares the observed frequencies in each category with the frequencies expected if no relationship existed. It is ideal for analyzing data like education level and media preference, where the variables are measured in discrete categories. This method is widely used in social science to explore patterns in behavior and attitudes.

69. (C) The assumptions of the parametric test (e.g., normality, homogeneity of variance) are not met.
Non-parametric tests serve as an essential alternative when data does not conform to the requirements of parametric analysis. These "distribution-free" tests do not assume that the data follows a normal curve, making them more robust for small samples or skewed data. Researchers choose these methods to ensure the validity of their results when dealing with ordinal or nominal data. By using non-parametric tests, investigators can still make meaningful statistical inferences without violating the fundamental assumptions of their chosen analytical approach.

70. (B) Communication within oneself, involving thinking, reflecting, and decision-making.
Intrapersonal communication is the internal dialogue that occurs within an individual's mind. It involves processes such as self-reflection, problem-solving, and the formation of attitudes and beliefs. This internal communication is the foundation for all other levels of interaction, as it is where we process information and prepare to communicate with others. Understanding this level of communication is vital because it influences how an individual perceives the world and reacts to external messages and social situations.

71. (C) P-3, Q-1, R-4, S-2
The communication process involves several key interconnected elements. Encoding is the sender's process of turning thoughts into an understandable message. The channel is the specific medium, such as voice or print, used to transmit that message. Decoding is the receiver's mental process of interpreting and assigning meaning to the received information. Feedback is the crucial response from the receiver that informs the sender about the message's effectiveness. Understanding these components is essential for analyzing and improving any communicative interaction.

72. (A) Leads people to adopt beliefs consistent with the "reality" portrayed on television.
This theory explores the long-term effects of television on the audience's perception of the real world. It suggests that individuals who watch a great deal of television are more likely to believe that the world is as it is depicted on screen, often perceiving it as more dangerous than it actually is. This "cultivation" of a specific worldview occurs gradually over time through repeated exposure to similar themes and images, shaping social attitudes and behaviors.

73. (C) Media messages are filtered and interpreted by trusted 'opinion leaders'.

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This model challenged the idea of direct media effects by introducing a social layer to the communication process. It proposed that information from the media first reaches influential individuals, known as opinion leaders, who then pass on their interpretations to their social networks. This suggests that interpersonal relationships play a critical role in how media messages are received and understood. Recognizing the importance of these influencers is a key strategy in development communication for promoting new ideas.

74. (A) Perceived susceptibility to germs and disease
According to the health belief model, an individual must first believe they are at risk of a negative health outcome before they are motivated to change their behavior. If a community believes that only visibly dirty hands are a threat, they will not see the need for consistent handwashing. Therefore, a campaign must focus on raising awareness of the invisible threat of germs to increase the community's perceived susceptibility, which is a necessary first step toward action.

75. (D) The gap between those with access to modern ICTs and those without.
The digital divide represents a significant form of inequality in the modern world, separating those who can benefit from digital technology from those who cannot. This gap is often driven by factors such as economic status, geographic location, and education level. In development, this divide limits access to essential information, educational opportunities, and economic resources for marginalized populations. Addressing this issue is a critical priority for ensuring that the benefits of technological progress are shared equitably across all of society.

76. (A) (c), (b), (e), (d), (a)
The adoption of a new innovation typically follows a predictable sequence within a social system. It begins with the innovators, who are willing to take risks, followed by early adopters who serve as respected opinion leaders. The early majority and late majority represent the large middle groups who adopt once the innovation's benefits are clear. Finally, the laggards are the last to change, often due to skepticism or limited resources. Understanding this sequence helps in planning more effective development interventions.

77. (C) Ethical appeal/Source credibility (Ethos)
Persuasion often relies on the credibility and character of the speaker to influence the audience. By using a well-known and respected celebrity to promote a social cause, the message gains trust and authority. This type of appeal, known as ethos, suggests that if a person the audience admires supports a cause, it must be worthwhile. This strategy is frequently used in development campaigns to leverage the influence of public figures to promote positive social behaviors and increase message acceptance.

78. (D) Gatekeeping - The process of filtering information before it is disseminated
Gatekeeping is a central concept in mass communication that describes the process by which individuals or organizations control the flow of information. Editors, journalists, and even social media algorithms act as gatekeepers by deciding which stories are shared and which are suppressed. This process significantly influences public perception by determining what information reaches the audience. Understanding gatekeeping is essential for analyzing how media agendas are set and how development news is framed for the general public and policymakers.

79. (A) A process through which individuals and communities gain control over their lives.
Empowerment is a multi-dimensional social process that helps people gain control over their own lives and communities. In development communication, it involves providing the information, skills, and platforms needed for marginalized groups to participate in decision-making and advocate for their rights. By fostering a sense of agency, empowerment allows individuals to transform their circumstances and contribute to sustainable social change. This approach shifts the focus from providing aid to building the long-term capacity and resilience of the people.

80. (B) The Participatory Approach
This model of development communication prioritizes the active involvement of the community at every stage of a project. It emphasizes horizontal dialogue and mutual

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learning between experts and local people, ensuring that interventions are culturally relevant and locally owned. By involving community members in planning and evaluation, this approach fosters a sense of responsibility and increases the likelihood of long-term sustainability. This shift away from top-down models acknowledges that people are the best experts on their own lives and challenges.

81. (A) (a), (b), and (c)
Advocacy communication uses a variety of strategic approaches to influence policy and drive social change. This includes directly lobbying decision-makers to provide evidence for new laws or resource allocations. Mobilizing the public through awareness campaigns creates the social pressure needed to support these changes. Building coalitions with other organizations strengthens the advocacy voice and increases its impact. These combined efforts are essential for addressing the systemic and structural issues that hinder development and social justice for marginalized populations.

82. (A) In research, what is the fundamental difference between parametric and non-parametric tests?
The choice between these two types of statistical tests depends on the nature of the data and the assumptions the researcher can make about the population. Parametric tests require specific conditions, such as a normal distribution and a continuous scale of measurement. Non-parametric tests are more flexible and can be used with categorical or ranked data without assuming a specific distribution. Understanding this fundamental difference is essential for selecting the correct analytical tool to ensure accurate and reliable research findings.

83. (C) To learn a culture is to learn how people in that culture communicate.
Culture and communication are inextricably linked, as each shapes and reflects the other. A society's cultural values and norms are expressed through its language, gestures, and social interactions. At the same time, the way people communicate reinforces and transmits these cultural elements to future generations. Therefore, understanding a culture requires a deep appreciation of its unique communication patterns. This relationship is a critical consideration for development communicators seeking to design interventions that are culturally appropriate and effective.

84. (D) Statement I is false, but Statement II is true.
Berlo's SMCR model is a well-known framework that identifies four key components: Source, Message, Channel, and Receiver. While it provides a clear structure for analyzing communication, it is a linear model that does not explicitly account for feedback or the influence of noise. Furthermore, the 'C' in this specific model stands for Channel, not Context. Despite these limitations, the model remains a useful tool for understanding the basic elements and the importance of sender and receiver skills in the communication process.

85. (D) A Village Health, Sanitation and Nutrition Committee (VHSNC)
Development communication often takes place through local-level institutions that are directly connected to the community. Committees like the VHSNC are essential for addressing grassroots issues and ensuring that development programs are implemented effectively at the village level. These local organizations provide a platform for community participation and help to tailor national and state policies to meet specific local needs. Their work is critical for achieving sustainable improvements in health and nutrition through direct engagement with the people they serve.

86. (A) Both A and R are true and R is the correct explanation of A.
Community radio is a uniquely effective tool for development because it is rooted in the local social and cultural environment. By broadcasting in local dialects and addressing the specific concerns of the community, it provides a voice to those who are often ignored by mainstream media. This localized approach fosters community participation and ownership, making it a powerful medium for promoting social change and empowering marginalized groups. Its success demonstrates the importance of inclusive and culturally relevant communication in development.

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87. (D) A series of radio jingles and street plays in the local dialect.
For an audience with low literacy levels, traditional print media and complex online documents are ineffective communication tools. Instead, development communicators must use media that rely on oral and visual storytelling, such as radio and folk theatre. These forms are highly accessible and can be delivered in the local language, ensuring that the message is understood. By using engaging and familiar formats, these strategies can effectively raise awareness about important issues like health insurance schemes in rural communities.

88. (A) Follows a bell-shaped curve, with different groups adopting at different times.
The diffusion of an innovation through a social system is a predictable process where the rate of adoption changes over time. Initially, only a few innovators adopt the new idea, but as more people see its benefits, the rate increases, eventually forming a bell-shaped curve. This effect highlights the importance of social influence and the different characteristics of adopter categories. Understanding this pattern allows development planners to design interventions that target the right groups at the right time to achieve widespread adoption.

89. (C) It acts as a substitute for essential services like healthcare and education.
While communication is a vital tool for development, it cannot replace the need for physical infrastructure and essential services. It serves to raise awareness, mobilize participation, and foster social change, but it must work in tandem with the actual provision of healthcare, education, and other resources. Communication enhances the effectiveness of these services by ensuring people know how to access and use them, but it is not a substitute for the fundamental services themselves in any development project.

90. (A) Engaging wider audiences and facilitating rapid information sharing and mobilization.
Social media platforms have become powerful tools in development communication due to their ability to reach large numbers of people quickly and interactively. They allow for the real-time sharing of information and facilitate the mobilization of communities for social and political causes. These digital tools empower individuals to share their own stories and hold authorities accountable. By fostering two-way communication, social media provides new opportunities for engagement and participation that were previously unavailable through traditional one-way mass media channels.

91. (B) (b), (c), and (e)
Effective behavior change communication must be a continuous, evidence-based process that is deeply informed by research into the target audience. It requires the active participation of the community in message design and implementation to ensure relevance and ownership. A client-centered approach that addresses the specific needs and perspectives of the audience is essential for success. By focusing on more than just awareness, these strategies help individuals build the skills and motivation needed to sustain positive health and social behaviors over time.

92. (B) Interaction is understandable through the exchange of meaningful symbols.
This social theory emphasizes that human behavior is shaped by the meanings people assign to things through social interaction. These meanings are not inherent but are created and modified through a process of interpretation. Communication is seen as the exchange of symbols, such as words and gestures, that allow individuals to develop a shared understanding of their world. This perspective is vital for understanding how social reality is constructed and how communication can be used to foster new social norms and identities.

93. (C) Advocacy Communication
This strategic form of communication is specifically designed to influence decision-makers and secure support for a particular cause or policy. In this case, the goal is to persuade legislators to increase funding for adult literacy, which requires targeted messaging and evidence-based arguments. Unlike general public awareness campaigns, advocacy directly engages with those in power to achieve systemic change. This process is essential for ensuring that development issues receive the political attention and financial resources needed to make a significant and lasting impact.

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94. (D) To control information flow by selecting, editing, or rejecting messages.
Gatekeepers play a powerful role in the mass communication process by acting as filters between the information source and the audience. They decide which stories are important enough to be shared and how those stories are presented. This process can significantly shape public perception and set the agenda for social and political debate. In development communication, understanding the role of gatekeepers is essential for ensuring that important social issues receive accurate and prominent coverage in the media to drive public awareness.

95. (A) Gross National Income
This economic indicator measures the total domestic and foreign output claimed by residents of a country. It includes the gross domestic product plus factor incomes earned by foreign residents, minus income earned in the domestic economy by non-residents. GNI provides a broad measure of a nation's economic strength and is often used by international organizations to classify countries by income level. While it is an important economic metric, it is increasingly used alongside social indicators to provide a more comprehensive view of national development.

96. (B) Investigate the dam's impact on communities, the environment, and economy.
Development journalism requires a comprehensive and critical approach to reporting that goes beyond official government statements. A journalist covering a project like a new dam must investigate its potential benefits as well as its social and environmental costs. This involves talking to affected communities and analyzing the long-term impact on the local economy and ecosystem. By providing this balanced and in-depth perspective, development journalists inform the public and ensure that all stakeholders' voices are heard in the development process.

97. (A) P-3, Q-4, R-1, S-2
Different media and strategies serve distinct roles in development communication. Participatory video empowers communities to use visual storytelling for social change. Community radio provides a localized platform for the voice of the voiceless through community ownership. Social marketing applies commercial techniques to promote beneficial social behaviors. Development journalism provides critical analysis and reporting on the overall progress and challenges of development. Each of these tools contributes in a unique way to the goals of awareness, participation, and long-term social transformation.

98. (A) Embedding educational or social messages in popular entertainment formats like soaps.
This strategy leverages the massive popularity of entertainment media to deliver positive social and educational messages. By weaving these messages into the storylines of soap operas or dramas, communicators can reach large audiences in a way that is engaging and non-didactic. This approach is highly effective for modeling new behaviors and challenging social norms, as viewers often identify with the characters and their experiences. Entertainment-education provides a powerful way to influence attitudes and behaviors on a large scale for development goals.

99. (C) The right to freedom of expression and information
This fundamental human right is essential for the practice of any form of communication and is a cornerstone of a democratic society. It ensures that individuals have the right to seek, receive, and share information without interference. In the context of development, this right allows citizens to participate in dialogue, hold authorities accountable, and make informed decisions about their lives. Without freedom of expression, the participatory and empowering goals of development communication cannot be fully realized, making it the most critical right for this field.

100. (D) Paired samples t-test
When a researcher needs to compare the means of the same group of people at two different points in time, such as before and after an intervention, the paired samples t-test is the most appropriate parametric tool. This test accounts for the fact that the two sets of scores are related because they come from the same individuals. It is an effective way to measure the impact of a communication campaign or educational program by identifying if the change in knowledge or attitude is statistically significant.

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101. (C) Feedback
Feedback is the critical concluding step in the communication process, providing a response that informs the sender about how the message was received. It turns a one-way transmission into a two-way dialogue, allowing for clarification and adjustment. This loop is essential for ensuring that the intended meaning was accurately understood and for evaluating the success of the interaction. In development programs, feedback mechanisms are vital for understanding community needs and ensuring that interventions are effective and culturally appropriate.

102. (B) Group communication involves three or more people with a common purpose.
Communication occurs at various levels, each with its own characteristics. Group communication is distinct because it involve several individuals working together toward a shared goal, allowing for collective decision-making and problem-solving. Unlike mass communication, it still allows for significant interaction among all members. Interpersonal communication is specifically between two people, while intrapersonal communication is the internal dialogue within one's own mind. Understanding these levels is essential for choosing the right approach for different development and social objectives and contexts.

103. (D) A medium that is high-definition and requires low audience participation.
Marshall McLuhan's concept of 'hot' media refers to channels that provide a high amount of sensory data, leaving little for the audience to fill in. Because the information is so complete, these media require relatively low levels of active participation or cognitive effort from the receiver. Examples include cinema and print, which provide a clear and detailed stimulus. Understanding the sensory impact of different media helps communicators select the most appropriate channel based on the desired level of audience engagement and information density.

104. (A) Loss-framing
This persuasive strategy focuses on the negative consequences of failing to adopt a certain behavior. By highlighting what the audience stands to lose, communicators can create a sense of urgency and motivate action. Research suggests that in some contexts, particularly for health screenings or disease prevention, people are more motivated by the fear of loss than by the promise of gain. Loss-framing is a powerful tool in message design that must be used strategically based on the audience and the desired outcome.

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105. (B) (b), (a), (c)
The history of development communication reflects a significant shift in thinking about how social change occurs. It began with the dominant paradigm, which focused on modernization through top-down information flow. This was followed by the participatory paradigm, which emphasized two-way dialogue and community involvement. The more recent empowerment paradigm further focuses on building the capacity of communities for long-term social change. This evolution shows an increasing recognition of the importance of local agency, culture, and power dynamics in the process of sustainable development.

106. (A) The time, effort, and social disapproval associated with the new behavior.
In social marketing, the concept of price is much broader than just financial cost. It encompasses all the barriers an individual must overcome to adopt a new behavior. This includes the time spent learning a new skill, the physical effort required, and the potential social stigma or disapproval from their peer group. Successful social marketing campaigns must identify these non-monetary costs and find ways to minimize them, making the desired behavior as attractive and easy as possible for the target audience.

107. (A) (a) and (c)
Communication is a fundamental and essential component of any successful development project. It serves as a tool for empowerment by providing communities with the information and skills they need to take control of their lives. Effective communication also fosters a sense of ownership, ensuring that people feel invested in the success of development initiatives. This participatory approach is far more effective than top-down instruction, as it aligns the project goals with the community's own needs and aspirations for long-term sustainability.

108. (B) Development journalism

This type of radio programming is a clear example of journalism that serves the specific needs of a developing community. By providing practical information on farming, markets, and weather, it directly supports the livelihoods of rural people. It goes beyond simple news reporting to provide actionable information that contributes to agricultural progress and economic stability. This focused approach demonstrates how media can be used as a strategic tool for development by addressing the information gaps that hinder local and national progress.

109. (A) Both A and R are true and R is the correct explanation of A.
Rapid population growth presents significant challenges for sustainable development, and communication is a key tool for addressing these issues. Campaigns can raise awareness about the benefits of family planning and provide essential information on reproductive health services. By challenging social norms that favor large families and promoting dialogue about population issues, communication helps individuals make informed choices. These efforts contribute to better health outcomes for mothers and children and support the overall development goals of the community and the nation.

110. (D) The Lasswell Model of Communication
While the Lasswell model is a foundational theory for understanding the basic elements of the communication process, it is not a specific model for behavior change. Models like the Health Belief Model, Stages of Change, and Theory of Reasoned Action were specifically developed to understand and influence individual and social behaviors. These models provide the theoretical framework needed to design effective interventions that address the psychological and social factors driving human actions. Lasswell's model is more focused on the general flow of information.

111. (A) Using traditional media for development
Folk theatre forms like Jatra and Nautanki are powerful tools for social change because they are deeply rooted in the local culture. They use familiar characters, music, and language to convey messages about sensitive issues like dowry or infanticide in an engaging and accessible way. By performing in community spaces, these traditional media forms reach diverse audiences, including those with limited literacy. Their ability to foster emotional connection and stimulate public dialogue makes them invaluable for development communication in both rural and urban areas.

112. (B) Village Panchayat - International
Development agencies operate at various levels, from local to international. A Village Panchayat is the most basic local government body in India and does not operate at the international level. Correctly identifying the level of operation is important for understanding the scope and responsibility of different organizations. International agencies like the UNDP work globally, national broadcasters like Prasar Bharati serve the entire country, and state institutes focus on regional development. This hierarchy ensures that development efforts are coordinated across all levels of society.

113. (B) As viewership hours increase, health knowledge scores tend to increase.
A positive correlation indicates that as one variable increases, the other variable also tends to increase. In this case, more time spent watching health-related TV shows is associated with higher health knowledge. However, correlation does not prove causation; it only shows that a relationship exists. It is possible that people with an existing interest in health are more likely to watch these shows. Understanding this distinction is fundamental for interpreting research findings and designing future studies in communication and development.

114. (A) Understand the issue from the community's perspective.
Empathy is a vital skill for development communicators because it allows them to step outside their own perspective and understand the lived experiences of the people they serve. By sharing the feelings and viewpoints of the community, communicators can design messages and interventions that are more relevant, respectful, and effective. This deep understanding builds trust and facilitates the participatory dialogue needed for sustainable social change. Empathy ensures that development projects are centered on the real needs and aspirations of the target audience.

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115. (C) Cognitive Dissonance Theory
This theory explores the psychological tension that occurs when an individual's beliefs and behaviors are inconsistent. People are naturally motivated to reduce this discomfort by changing either their attitudes or their actions. Development communicators can use this principle by highlighting the conflict between an audience's current behavior and their desired values or new information. By creating this cognitive dissonance, communication can encourage individuals to adopt healthier or more beneficial behaviors to restore their internal sense of consistency and psychological well-being.

116. (C) (a), (b), (c), and (e)
Measuring development requires a variety of indicators that reflect the economic, social, and health status of a nation. Economic metrics like GDP per capita are used alongside social indicators such as literacy rates and health statistics like infant mortality and life expectancy. These multiple measures provide a more comprehensive view of progress than any single statistic could. While the number of cinemas may reflect certain cultural aspects, it is not considered a standard or critical indicator of a country's overall human or economic development.

117. (A) Knowledge → Persuasion → Decision → Implementation → Confirmation
The process of deciding to adopt an innovation involves a specific sequence of cognitive and behavioral stages. It begins with gaining knowledge about the new idea, followed by forming a favorable or unfavorable attitude toward it. The individual then makes a decision to adopt or reject the innovation. If the decision is to adopt, they implement the change and finally seek confirmation that their decision was correct. Understanding these stages allows communicators to provide the right information at each point in the decision process.

118. (B) Mass media
National television is a primary example of mass media because it allows for the simultaneous dissemination of information to a large and diverse audience across a wide geographic area. This one-way communication channel is highly effective for raising awareness and setting the national agenda on important development issues. While it lacks the personalized interaction of interpersonal communication, its reach and potential for emotional impact through visual storytelling make it a critical tool for large-scale development campaigns and public information initiatives.

119. (D) The potential for interactivity, feedback, and linking to information.
The internet provides unique advantages for development communication that traditional media cannot offer. Its interactive nature allows for immediate feedback from the audience, fostering two-way dialogue and participation. The ability to link to additional resources and diverse viewpoints provides a more comprehensive understanding of complex development issues. This digital platform also allows for the inclusion of multimedia content and real-time updates, making it a flexible and powerful tool for engaging modern audiences and promoting social change in a globalized world.

120. (A) Health
Ensuring access to clean water and sanitation is a fundamental health concern in development. These interventions are critical for preventing waterborne diseases and improving overall community well-being. Communication campaigns in this area focus on promoting hygiene behaviors and the proper use of sanitation facilities. By addressing these basic needs, development projects can significantly reduce mortality and morbidity rates, particularly among children. This reflects the understanding that environmental factors are a key determinant of health and are central to sustainable development goals.

121. (C) The person's behavioral intention.
According to these behavior change models, the most direct predictor of whether an individual will perform a certain action is their intention to do so. This intention is shaped by their attitude toward the behavior and the perceived social pressure or subjective norms. The addition of perceived behavioral control accounts for the person's belief in their own ability to perform the action. Understanding the factors that influence behavioral intention allows development communicators to design more effective

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strategies to encourage positive and sustainable social change.

122. (C) P-3, Q-4, R-1, S-2
Different media forms offer unique advantages for development communication. Cinema provides large-scale emotional impact through powerful narrative storytelling. Advertisements are effective for delivering short, persuasive messages to a wide audience for awareness. Social media facilitates rapid, two-way interaction and user-generated content, promoting community engagement. Traditional puppetry is culturally rooted and bypasses literacy barriers, making it highly effective in rural areas. Each medium must be selected based on the specific goals of the campaign and the characteristics of the target audience.

123. (D) International level
The World Health Organization is a specialized international agency responsible for global public health. It provides leadership on critical health matters, sets international standards, and monitors health trends around the world. Its work is essential for coordinating global responses to disease outbreaks and promoting health equity across all nations. By operating at the international level, the WHO can leverage global expertise and resources to address health challenges that transcend national borders, making it a key player in international development and health communication.

124. (D) Statement I is false, but Statement II is true.
In statistical research, a t-test is a parametric test, not a non-parametric one, and it is used to compare the means of two groups. The Chi-square test, on the other hand, is a non-parametric test that is perfectly suited for analyzing relationships between nominal or categorical variables. Understanding the classification and appropriate use of these tests is essential for accurate data analysis. This knowledge ensures that researchers select the correct statistical tools based on the nature of their data and the research questions they seek to answer.

125. (C) Organization
Perception is a systematic process that begins with selecting certain stimuli from the environment. The next stage, organization, is where the brain mentally arranges this information into recognizable and meaningful patterns. This allows individuals to make sense of complex sensory data by grouping similar items or identifying familiar structures. The final stage is interpretation, where meaning is assigned to the organized information based on personal experiences and cultural context. Together, these stages shape an individual's unique perception of reality and communication.

126. (D) Public communication
Public communication occurs when an individual addresses a large audience in a formal setting, such as a speech or a lecture. In this context, the flow of information is primarily one-way from the speaker to the crowd, with limited opportunities for direct interaction or personalized feedback. This level of communication is often used for persuasion, education, or setting a common agenda. It is a critical tool for political leaders and social advocates to reach and influence large numbers of people simultaneously.

127. (A) Persuasion
The communication process consists of several fundamental elements that are necessary for any interaction to occur. These include a sender who encodes a message, the message itself, a channel for transmission, and a receiver who decodes the information. While persuasion is a common goal or function of communication, it is not considered one of the basic structural elements of the process. Understanding these core components is essential for analyzing how communication works and for identifying potential points of failure or misunderstanding in various social interactions.

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128. (B) It is shaped through communication and social interaction with others.
Symbolic interactionism posits that the 'self' is not an inherent or fixed entity but a social product developed through interaction. Individuals learn to see themselves through the eyes of others by interpreting symbols and social cues. This process of communication allows people to develop a self-concept and understand their role within society. This perspective highlights the critical role of social relationships and symbolic exchange in shaping individual identity and behavior, making

it a vital concept for understanding human communication and social reality.

129. (B) Strategic choices made in crafting a message to achieve a specific outcome.
Message design is the process of intentionally selecting and organizing information to maximize its effectiveness. It involves considering the target audience's needs, the desired behavior change, and the most appropriate persuasive appeals. By making strategic choices about language, tone, and format, communicators can increase the likelihood that their message will be understood and accepted. This systematic approach is essential for development communication, where the goal is often to influence attitudes and behaviors to achieve specific social and developmental goals.

130. (A) Ethnocentric, assuming the Western model of development was universally best.
A major criticism of early modernization theory was its Western-centric perspective, which viewed the historical path of developed nations as the only valid model for progress. This approach often ignored the unique cultural, social, and political contexts of developing countries. By assuming that all societies should adopt Western technology and values, it sometimes led to interventions that were inappropriate or even harmful to local communities. Modern development theory has since shifted toward more inclusive and culturally sensitive approaches that acknowledge multiple paths to development.

131. (C) Complexity
The characteristics of an innovation significantly influence how quickly it is adopted by a social system. Relative advantage, compatibility, and trialability all tend to have a positive effect on adoption. In contrast, complexity acts as a significant barrier. If a new idea or technology is perceived as difficult to understand or use, people are much less likely to adopt it. This emphasizes the importance of making development innovations as simple and user-friendly as possible to ensure their widespread acceptance and long-term success.

132. (D) Sustainability
In development, sustainability refers to the ability of a project and its benefits to continue long after the initial intervention has ended. Communication plays a vital role in this by building community capacity, fostering ownership, and ensuring that outcomes are socially and environmentally responsible. By promoting practices that preserve resources for future generations, communication contributes to the long-term viability of development efforts. This focus on enduring progress is essential for achieving true and lasting improvements in human well-being and environmental health.

133. (C) A is true but R is false.
Effective behavior change communication often requires a multi-channeled approach because human behavior is influenced by a complex set of individual and social factors. Relying on a single message or channel is rarely enough to overcome deeply ingrained habits and social norms. By using multiple platforms, such as interpersonal counseling, mass media, and community events, communicators can reinforce the message and reach different segments of the population. This comprehensive strategy increases the likelihood of achieving significant and sustained behavioral change across a community.

134. (B) A health worker using a mobile app to track child vaccination schedules.
This example perfectly illustrates the power of information and communication technologies to improve development outcomes. By using digital tools, health workers can manage data more efficiently, ensuring that essential services like vaccinations are delivered accurately and on time. This approach increases the effectiveness of health programs and provides a reliable way to monitor progress. It demonstrates how modern technology can be harnessed to address critical challenges in healthcare delivery and support the overall goals of community health and development.

135. (D) Combating hunger and improving food security and rural development.
The FAO is the leading international agency for using communication to advance agriculture and nutrition. Its work focuses on providing farmers with technical information, promoting sustainable agricultural practices, and coordinating global efforts to eliminate hunger. Through its various communication

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initiatives, the FAO shares essential knowledge and supports policy development at the national and international levels. Its work is critical for ensuring that all people have access to enough safe and nutritious food to lead an active and healthy life.

136. (A) Correctly reject a false null hypothesis.
The power of a statistical test is a measure of its sensitivity in detecting an effect that truly exists. A high-power test is one that is likely to correctly reject the null hypothesis when it is false, thereby avoiding a Type II error. Factors that influence power include the sample size, the significance level, and the size of the effect being measured. Understanding power is essential for designing robust research studies that can provide reliable evidence for the effectiveness of communication and development interventions.

137. (C) Communication is transactional.
This principle suggests that communication is more than just a transmission of information; it is a process that shapes and is shaped by the relationship between the participants. Every message conveys both specific content and information about how the communicators view each other. The tone, context, and non-verbal cues all contribute to this relationship dimension. Recognizing the transactional nature of communication is essential for understanding how social reality is co-created and for building the trust needed for effective development and interpersonal interaction.

138. (A) Immediately thinking of a counter-argument while the other person is speaking.
Active listening is a deliberate and engaging process that requires the listener to focus entirely on the speaker. It involves paying attention to both verbal and non-verbal cues and providing feedback to ensure understanding. Preparing a counter-argument while someone is still speaking is a major barrier to effective listening, as it shifts the focus away from the speaker's message. True active listening requires patience, empathy, and a commitment to fully understanding the other person's perspective before forming a response.

139. (D) Newton's Law of Universal Gravitation
Theories of human interaction, such as symbolic interactionism, social exchange, and cognitive dissonance, are fundamental to understanding the social and psychological processes of communication. These theories explore how people create meaning, negotiate relationships, and manage internal conflicts. Scientific laws from physics, like Newton's law of gravity, are not relevant to the study of human interaction. Identifying the correct theoretical frameworks is essential for developing a deep understanding of communication and for designing effective strategies to influence social behavior and development.

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140. (B) P-4, Q-1, R-3, S-2
Development indicators provide essential data on the progress of a nation across different sectors. Infant mortality rate measures the number of child deaths, reflecting the quality of healthcare. Literacy rates indicate the educational level of the adult population. The Gini coefficient is a standard measure of income or wealth inequality within a society. Life expectancy provides an average of how long people are expected to live, reflecting overall health and living conditions. Together, these statistics provide a comprehensive view of national development and human well-being.

141. (C) Top-down, ethnocentric, and victim-blaming approach.
The failure of the dominant paradigm was largely due to its narrow focus on Western models and its failure to involve local communities. By treating people as passive recipients of expert knowledge and often blaming them for their own lack of progress, this approach created significant resistance. It ignored the importance of local culture, language, and the structural barriers that many developing nations face. The recognition of these flaws led to the shift toward more participatory and culturally sensitive models that prioritize community agency and social justice.

142. (D) Cultural sensitivity
Cultural sensitivity is the ability to recognize and respect the unique values, customs, and languages of different social groups. In development communication, ignoring these factors can lead to misunderstandings, rejection of messages, and the failure of entire projects. For tribal communities, messages must be delivered in their own dialect and aligned with

or difference between the variables being studied. This systematic approach is essential for drawing reliable and objective conclusions from quantitative research in all scientific fields.

183. (D) Two people can experience the same event but interpret it very differently.
Perception is a subjective process where individuals interpret sensory information based on their own unique experiences, values, and cultural background. This means that reality is not perceived identically by everyone. In any communication interaction, the meaning that the receiver assigns to a message may be very different from the meaning intended by the sender. Recognizing the subjective nature of perception is essential for effective communication, as it requires communicators to be aware of their audience's perspectives and to use strategies that minimize potential misunderstandings.

184. (A) Both A and R are true and R is the correct explanation of A.
Persuasion is a fundamental function of development communication because achieving social progress often requires individuals to adopt new and beneficial behaviors. Communicators use strategic messages to persuade audiences of the benefits of practices like using bed nets to prevent malaria or adopting sustainable farming techniques. By providing evidence-based arguments and addressing local concerns, these campaigns can shift attitudes and motivate positive actions. Persuasion, when used ethically and respectfully, is a vital tool for driving the behavior change needed for sustainable and long-term development.

185. (C) Physical and psychological noise
Noise in communication refers to any interference that prevents a message from being received or understood as intended. In this scenario, the crying baby acts as a physical distraction, while the mother's internal worries about dinner represent psychological noise. Both types of interference prevent her from focusing on the health worker's message. Recognizing these various sources of noise is essential for communicators to select the best time and environment for their interactions, ensuring that their message has the best chance of being effectively received.

186. (A) Elaboration Likelihood Model (ELM)
The ELM provides a framework for understanding how people process persuasive messages through two different routes. The central route involves careful and thoughtful consideration of the arguments, while the peripheral route relies on simple cues like the source's attractiveness or credibility. The route an individual takes depends on their motivation and ability to elaborate on the message. Understanding this model is essential for development communicators to design strategies that encourage deep processing of information, leading to more permanent and stable changes in attitudes and behaviors.

187. (D) The specific, measurable statistics used to track progress in development.
Development indicators are essential tools for monitoring and evaluating the progress of a nation or community. These measurable statistics, such as life expectancy, literacy rates, and GNI per capita, provide objective data on various social and economic dimensions of development. By tracking these indicators over time, planners and policymakers can identify areas of success and those that require further intervention. These metrics are fundamental for ensuring that development programs are evidence-based and that resources are allocated to achieve the greatest impact on human well-being.

188. (B) Diffusion
Diffusion is the process by which a new idea, practice, or technology spreads through a social system over time. It occurs through various communication channels and is influenced by the characteristics of the innovation and the social structure of the group. Understanding how diffusion works is essential for development communication, as it helps in identifying key opinion leaders and designing strategies that facilitate the widespread adoption of beneficial innovations. This framework provides a systematic way to analyze how social change occurs and how it can be effectively promoted.

189. (C) To make information accessible, shareable, and actionable for all.
Writing for development on the internet aims to leverage the unique capabilities of digital platforms to engage a wide audience. The primary

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The UNDP is the lead United Nations agency for international development, working in nearly 170 countries to eliminate poverty and reduce inequality. It developed the Human Development Index to provide a more comprehensive measure of progress than economic growth alone. This index is published annually in the Human Development Report and has significantly influenced global development policies by highlighting the social and human dimensions of national progress. The UNDP provides technical expertise and funding to support sustainable development goals across the globe.

150. (A) (b), (c), a, (d)
The evolution of development communication media reflects changes in technology and development philosophy. It began with traditional folk theatre, which has been used for social messages for centuries. Community radio emerged as a powerful tool for localized information in the late 20th century. Participatory video became popular more recently as a tool for community empowerment and advocacy. Social media is the most modern addition, providing new opportunities for rapid interaction and mobilization. This sequence demonstrates the ongoing integration of traditional and modern media forms.

151. (D) The Shannon-Weaver model
This influential early model is often criticized for its linear and one-way representation of communication. Originally developed for technical and electronic transmission, it focuses on the flow of a signal from a source to a receiver through a channel, with noise as a primary interference. While it provides a clear structure, it fails to account for the complex social and psychological aspects of human interaction, such as feedback and the co-creation of meaning. Later models addressed these limitations by introducing interactivity.

152. (A) Most info is in the physical context or internalized, with less reliance on words.
In high-context cultures, such as those found in parts of Asia and the Middle East, communication relies heavily on non-verbal cues and the social situation. Much of the meaning is conveyed through shared understanding and environmental signals rather than explicit verbal statements. Individuals in these cultures often value indirectness and harmony in social interactions. This contrasts with low-context cultures, where information is conveyed primarily through direct and explicit verbal messages. Understanding these cultural differences is essential for effective intercultural and development communication.

153. (A) (a), (b), (c), and (d)
Communication serves a wide range of essential social and individual functions. It is used to share information, persuade others to take action, and provide entertainment and social cohesion. Furthermore, communication is fundamental for building and maintaining relationships within a community. Creating confusion is generally a sign of communication failure rather than a primary goal or function. Recognizing the diverse purposes of communication helps in designing strategies that effectively address the specific needs and goals of any social or development intervention in a variety of contexts.

154. (A) People are active participants in their own development rather than passive.
This shift in development thinking acknowledged that true progress requires the active involvement and agency of the people themselves. Instead of treating individuals as passive recipients of external aid and expert knowledge, the participatory paradigm views them as key actors in their own development process. This approach emphasizes the importance of local knowledge, horizontal dialogue, and community ownership. By fostering participation, development projects are more likely to be culturally appropriate, sustainable, and effective in addressing the real challenges people face in their lives.

155. (D) Using short, simple sentences and a conversational tone suitable for listening.
Radio is a fleeting medium where the audience must understand the message as it is being heard. Writing "for the ear" requires a focus on clarity and simplicity to ensure that the listener can follow the narrative easily. This involves using a conversational tone, active verbs, and repeating key information. Complex language and long sentences are avoided to minimize the risk of misunderstanding. This approach makes radio an ideal medium for reaching diverse audiences and

for providing essential development information in a way that is easy to process.

156. (B) Addressing the specific info needs and socio-cultural contexts of communities.
Rural and tribal development communication focuses on delivering information that is relevant and accessible to marginalized populations. This requires a deep understanding of their unique social structures, traditional knowledge, and linguistic preferences. By using local languages and culturally appropriate media, communicators can bridge the information gap and empower these communities to participate in development. This localized focus ensures that development efforts are respectful of traditional identities and effectively address the specific challenges faced by people in remote and underserved areas of the country.

157. (C) Community-Led Total Sanitation (CLTS)
CLTS is a participatory approach to sanitation that focuses on collective behavior change within a community. Instead of providing hardware or subsidies, it uses social pressure and community-led monitoring to end the practice of open defecation. By making the community aware of the health risks and creating a sense of collective responsibility, CLTS encourages individuals to build and use their own latrines. This strategy is highly effective because it relies on social norms and community agency to achieve sustainable and long-term improvements in local sanitation.

158. (A) Both A and R are true and R is the correct explanation of A.
The rapid spread of mobile technology has significantly transformed development communication by providing an accessible and versatile tool for information exchange. Their portability and ability to handle various types of data make them invaluable for providing health advice, market information, and financial services to remote populations. By facilitating two-way communication, mobile phones empower individuals to seek help and participate in social networks. This technology has become a cornerstone of modern development strategies, helping to bridge the digital divide and improve human well-being.

159. (A) A free and pluralistic media as essential for democracy and development.
UNESCO has long advocated for the importance of a free press and freedom of expression as fundamental human rights and drivers of social progress. It promotes media pluralism, ensuring that a variety of voices and viewpoints are represented in the public sphere. UNESCO provides support for independent media development and works to ensure the safety of journalists around the world. This focus on media freedom is based on the understanding that an informed and active citizenry is essential for achieving sustainable development and strengthening democratic institutions.

160. (B) Compare the means of three or more groups.
ANOVA is a powerful parametric statistical test used when a researcher needs to compare the average scores of more than two independent groups. It determines if there are significant differences among the group means, although it does not specify which groups are different from each other. This test is frequently used in experimental research to evaluate the relative effectiveness of several different communication interventions or educational programs. By comparing multiple groups simultaneously, ANOVA provides a more robust and efficient analysis than multiple individual t-tests.

161. (B) Semantic barrier
A semantic barrier occurs when the sender and receiver have different understandings of the meanings of words or symbols. This can happen due to differences in language, the use of technical jargon, or cultural variations in how certain phrases are interpreted. These misunderstandings can lead to significant confusion and the failure of the communication process. Identifying and addressing semantic barriers is essential for ensuring that development messages are clear and accurate, and that they resonate correctly with the intended target audience across diverse settings.

162. (A) Modernization Theory
Modernization theory views development as a linear process of transition from a traditional to a modern society. It emphasizes the importance of adopting Western technology, secular values, and industrial economic structures. This approach

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suggests that underdeveloped nations can achieve progress by following the historical path of developed countries. While highly influential in early development thinking, this theory has been criticized for being ethnocentric and for failing to account for the unique cultural contexts and structural challenges faced by many nations in the developing world.

163. (C) Entertainment-Education
Entertainment-education is a strategic communication approach that embeds social and health messages within popular media formats. By using the emotional power of storytelling and relatable characters, these soap operas can influence attitudes and behaviors on a large scale. This method is particularly effective for reaching audiences that might be resistant to direct educational messages. By modeling positive behaviors, such as HIV prevention, entertainment-education can drive significant social change and improve community health outcomes in an engaging and non-threatening way.

164. (D) To guide discussion and help the group reach its own conclusions.
In participatory communication, the facilitator plays a critical role in managing the dialogue without dominating it. Their goal is to create a supportive environment where all voices can be heard and to guide the group through the process of problem-solving and decision-making. A good facilitator does not provide answers but instead uses questions and techniques to help the community identify its own challenges and solutions. This approach empowers the group and ensures that the final decisions are truly reflective of the community's own needs.

165. (C) "I understand how you might be feeling in this situation."
Empathy in communication is about acknowledging and attempting to understand another person's emotional state from their perspective. It involves active listening and a commitment to seeing the world through their eyes without judgment. By using phrases that demonstrate this understanding, communicators can build a strong rapport and trust with their audience. This connection is essential for effective interpersonal and development communication, as it ensures that individuals feel heard and respected, which is a necessary foundation for any meaningful and lasting social change.

166. (B) Two-Step Flow Theory
This influential theory challenged the idea of direct and uniform media effects by introducing the role of opinion leaders. It suggests that media information is first received and interpreted by influential individuals in a social network, who then pass on their views to their peers. This two-step process highlights the power of interpersonal communication and social influence in shaping how media messages are understood. Recognizing these influencers is a key strategy for development communicators seeking to promote new ideas and practices within a community.

167. (D) It uses marketing techniques to influence behavior for social good.
Social marketing applies the systematic and research-based principles of commercial marketing to achieve positive social objectives. Instead of selling a physical product for profit, it focuses on promoting behaviors that benefit individuals and society, such as healthy eating or environmental conservation. By analyzing audience needs and the barriers to change, social marketers design strategies that make the desired behavior more attractive and easier to adopt. This goal-oriented approach is an essential tool for achieving sustainable behavior change and social progress in diverse communities.

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168. (A) A campaign to persuade policymakers to pass a Right to Food Act.
Advocacy is a strategic communication process focused on influencing decision-makers to achieve systemic policy changes. Unlike general awareness campaigns, advocacy is targeted at those with the power to allocate resources or change laws. In this case, the goal is to secure a legal right to food, which requires providing evidence and building political support. This process is essential for addressing the root causes of poverty and inequality and for ensuring that the rights and needs of marginalized populations are prioritized by the state.

169. (C) New media allows for interactivity and user-generated content.

The concept of conscientization is a cornerstone of the participatory approach to development. It involves fostering a critical awareness of the social, political, and economic factors that shape one's life. Through a process of dialogue, reflection, and action, individuals and communities are empowered to transform their reality. This approach shifts the focus away from top-down expert knowledge to the lived experiences and agency of the people themselves. Conscientization is essential for achieving true empowerment and for driving sustainable social change from the bottom up.

197. (C) Top-down, Linear Model
The dominant paradigm of development was historically associated with a top-down, linear model of communication. In this framework, information was disseminated from central experts to the masses, with the goal of encouraging the adoption of "modern" behaviors. This model viewed communication as a one-way transmission and often failed to involve the community in the decision-making process. While effective for large-scale information delivery, this approach lacked the flexibility and sensitivity to local culture that is necessary for achieving truly sustainable and equitable development outcomes and progress.

198. (B) An active media user who is respected within their social network.
According to the two-step flow theory, opinion leaders are influential individuals who act as intermediaries between the media and their social circles. They are typically regular media consumers who are knowledgeable about certain topics and are trusted by their peers for their advice and interpretations. Identifying and engaging these opinion leaders is a critical strategy in development communication, as they can significantly influence the acceptance and adoption of new ideas and behaviors within their communities through trusted interpersonal communication and social influence.

199. (A) Both A and R are true and R is the correct explanation of A.
Development journalism is an essential form of reporting that goes beyond simple event coverage to analyze the underlying causes and consequences of social progress. It seeks to provide the context and analysis needed for citizens to understand complex development issues and to participate meaningfully in the process. By highlighting the human impact of policy decisions, this type of journalism fosters transparency and accountability. This empowered understanding is critical for building the public support and community engagement necessary for sustainable development and for achieving social justice.

200. (A) Environmental Communication and Sustainability
Communication strategies focused on protecting natural resources are central to the goal of environmental sustainability. These initiatives aim to raise awareness about ecological challenges and to promote behaviors that reduce human impact on the planet. By fostering a culture of stewardship and environmental responsibility, this form of communication contributes to the long-term health of the ecosystem and the well-being of future generations. This reflects the understanding that ecological health is a necessary foundation for any sustainable economic or social development of a nation and its communities.

201. (C) Media advocacy to shape public opinion and professional news coverage.
Media advocacy is a key strategic approach in advocacy communication that uses the power of mass media to influence public perception and policy debate. By strategically framing development issues in the news and other media formats, advocates can draw attention to social challenges and create public pressure for change. This involves engaging with journalists, creating media-worthy events, and using digital platforms to share evidence-based arguments. Media advocacy is a powerful tool for achieving systemic and sustainable social progress through the strategic use of information.

202. (A) A low-cost, local, and participatory form of print media.
A wall newspaper is a simple and effective development communication tool that is produced and displayed within a local community. Because it is low-cost and uses local language and content, it is highly accessible and relatable to the target audience. This participatory medium

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our understanding of global inequality and the power dynamics of international development.

176. (B) Price
The question as stated in the input is "Which of the following is NOT one of the 4 Ps of social marketing?" with the correct answer being "B" which is "Price". However, standard social marketing theory includes Price as one of the 4 Ps (Product, Price, Place, Promotion). In this specific MCQ context, the selected incorrect option "Price" identifies that it is NOT excluded, though the logic of the MCQ seems to identify it as the intended choice for the "NOT" category based on the provided correct answer key.

177. (B) Provide critical and in-depth coverage of development issues.
Development journalism is characterized by a commitment to reporting on the complex processes and challenges of social change. Instead of simply repeating government announcements, these journalists provide context, analyze policies, and highlight the human impact of development projects. They seek to give a voice to the marginalized and hold those in power accountable. By providing this critical and in-depth perspective, development journalism informs the public and fosters the dialogue and participation needed for meaningful and sustainable national and social progress and development.

178. (A) Health and Human Rights
Stigma associated with mental illness is both a major health challenge and a significant human rights issue. Communication campaigns aimed at reducing this stigma are critical for ensuring that individuals can access the care they need without fear of discrimination or social isolation. By challenging harmful stereotypes and promoting understanding, these initiatives uphold the dignity and rights of people with mental health conditions. This reflects the understanding that social attitudes are a key determinant of health and that protecting human rights is essential for sustainable development.

179. (C) Awareness and knowledge to sustained behavior change.
A primary goal of behavior change communication is to move beyond simply providing information to achieving lasting changes in actions. While awareness is a necessary first step, it is rarely enough to drive behavior change on its own. BCC strategies focus on addressing the social, psychological, and environmental factors that influence what people do. By providing motivation and building the skills needed for new behaviors, these interventions help individuals and communities to adopt and maintain positive actions that lead to long-term improvements in health and well-being.

180. (B) P-3, Q-1, R-2, S-4
Different media forms offer unique advantages for development communication. Community radio serves as a localized platform for the voice of the voiceless. Participatory video empowers communities to use visual storytelling to document their own lives. Social media provides opportunities for networked communication and rapid mobilization for social causes. Traditional puppetry is culturally resonant and effective for bypassing literacy barriers in rural areas. Each of these tools must be chosen based on the desired level of community involvement and the specific goals of the communication strategy being implemented.

181. (C) United Nations Children's Fund
UNICEF is the lead international agency for protecting and promoting the rights of children around the world. It works in over 190 countries to provide humanitarian and developmental assistance to children and mothers. Through its various communication and advocacy initiatives, UNICEF addresses issues such as health, nutrition, education, and protection from violence and exploitation. Its work is essential for ensuring that every child has the opportunity to thrive and reach their full potential, making it a critical player in global development and children's welfare.

182. (B) Reject the null hypothesis.
In statistical hypothesis testing, the p-value represents the probability that the observed results occurred by chance alone. A p-value of 0.03 is less than the common significance level of 0.05, meaning that the result is considered statistically significant. In this case, the researcher has enough evidence to reject the null hypothesis and conclude that there is a significant relationship

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The defining characteristic of new media, such as the internet and mobile phones, is its interactive nature. Unlike traditional mass media, which provides a one-way flow of information from source to audience, new media allows for two-way dialogue and active participation. Users can create their own content, share their perspectives, and engage with others in real-time. This interactivity provides powerful new opportunities for development communication, fostering empowerment and community mobilization in a way that was previously impossible through one-way broadcast and print media.

170. (A) State-level development communication organization
Agencies that operate at the state level are responsible for communicating government policies and programs within a specific regional jurisdiction. Their work is essential for ensuring that national and state development goals are effectively translated to meet the needs of the local population. These organizations use various media channels to disseminate information and engage with citizens on important issues such as health, education, and rural development. By focusing on a specific state, they can provide localized and culturally relevant communication that supports the overall development of that region.

171. (D) Ordinal
Ordinal data is a type of categorical data where the categories have a clear and meaningful order or ranking. In this case, students are ranking their reading preferences from most to least preferred. While the data shows which item is ranked higher than another, the distance between the ranks is not necessarily equal or measurable. Understanding the level of measurement is essential for selecting the correct statistical tests, as ordinal data requires specific non-parametric methods for accurate analysis and interpretation in various research studies.

172. (D) Statement I is false, but Statement II is true.
Communication is an ongoing and interactive process that is not complete until the receiver has provided feedback. This response from the receiver informs the sender about the effectiveness of the message and allows for clarification and adjustment. Without feedback, the process remains a one-way transmission, which is less effective for ensuring mutual understanding. Feedback turns communication into a truly transactional and dynamic exchange, making it a critical component for successful interactions in both personal and professional settings, including all development communication.

173. (C) Hypodermic Needle Theory
This early mass communication model, also known as the magic bullet theory, portrayed media messages as powerful and direct influences on a passive audience. It suggested that information could be "injected" into the minds of receivers, leading to immediate and uniform changes in behavior and attitudes. While this theory was largely discredited by later research that recognized the active role of the audience, it remains a foundational concept for understanding the history of communication theory and the initial concerns about the overwhelming power of mass media.

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174. (B) (a), (c), and (e)
Communication is fundamentally a dynamic process that is transactional in nature, involving the simultaneous exchange of messages and meaning between participants. It is also considered irreversible, as the impact of a message cannot be completely undone once it has been received. These core characteristics highlight the complexity and permanent influence of human interaction. Unlike a static event, communication is constantly evolving and shaped by the social and cultural context in which it occurs. Understanding these principles is essential for designing effective and responsible communication strategies.

175. (A) The Modernization Theory
Dependency theory emerged as a significant critique of modernization theory by arguing that global underdevelopment is the result of historical and ongoing economic exploitation. It suggests that the international economic system is structured to favor wealthy core nations at the expense of poorer peripheral nations. Instead of viewing development as a linear path to modernization, this theory emphasizes the need for structural changes to the global system. This perspective has been highly influential in shaping

goal is to provide clear and accurate information that is easy for users to find, share, and use to take positive action. This requires using a concise writing style, incorporating multimedia, and ensuring that content is accessible across different devices. By making development information shareable and actionable, digital communication can foster community participation and drive social change on a global scale.

190. (D) Literacy
Education and skill-building for adults are central to the development concern of literacy. This goes beyond the basic ability to read and write to include the functional skills needed for individual empowerment and social participation. Adult literacy programs are essential for improving economic opportunities and health outcomes, particularly for those who missed formal schooling. By focusing on this area, development communication initiatives help to reduce inequality and empower individuals to take a more active role in their own lives and the development of their communities and country.

191. (A) Provide information and motivation for healthier or beneficial choices.
Behavior change communication is a strategic and systematic approach to influencing individual and community actions for better health and well-being. It focuses on providing people with the information they need and the motivation to make positive lifestyle choices. Unlike coercive methods, BCC respects personal autonomy and works to address the social and psychological factors that drive behavior. This approach is fundamental for development programs that seek to improve public health and promote sustainable social change through informed and voluntary changes in human action.

192. (D) (a), (b), and (d)
Traditional media are valuable tools for development because they are deeply rooted in the local culture and provide a familiar platform for communication. Forms like folk theatre, puppetry, and storytelling are particularly effective because they can bypass literacy barriers through oral and visual narratives. These media forms are engaging and can be delivered in local dialects, ensuring that the message is understood by diverse audiences. Their cultural familiarity builds trust and facilitates the dialogue and reflection needed for social change and development in various social settings.

193. (A) Non-parametric tests
When data does not follow the assumptions of a normal distribution, researchers must use non-parametric tests for statistical analysis. These tests are more flexible and can be used with categorical or ordinal data. They are particularly useful for small samples or for data that is skewed by outliers. By using non-parametric methods, investigators can still perform valid statistical comparisons and draw meaningful conclusions without violating the fundamental assumptions required by more rigid parametric tests. This ensures the integrity and reliability of research findings in many scientific fields.

194. (A) We are always communicating, even through silence or non-action.
This fundamental principle highlights that communication is constant and unavoidable. Every action, gesture, or even the decision to remain silent conveys some form of meaning to others. We cannot choose to not communicate because people will always assign meaning to our behavior based on the social and cultural context. Understanding this principle is essential for recognizing the pervasive nature of communication and for being more mindful of the messages we are sending to others through both our verbal and non-verbal actions.

195. (C) Emphasizes the simultaneous sending and receiving of messages by communicators.
The transactional model represents a significant advancement over linear models by viewing communication as a simultaneous and ongoing exchange. In this framework, both the sender and receiver are active participants who are constantly encoding and decoding messages at the same time. This model acknowledges that communication is a dynamic process where meaning is co-created through the interaction. This perspective is essential for understanding the complexity of human interaction and the importance of both participants in shaping the final outcome of the communication process.

196. (D) Participatory Communication

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their traditional social structures. By prioritizing cultural sensitivity, communicators can build the trust and rapport needed to engage effectively with marginalized groups and ensure that development interventions are truly beneficial and sustainable.

143. (A) (a), (b), and (c)
Advocacy communication is a strategic tool used to influence policy and drive social progress on important developmental issues. This includes campaigning for environmental protections, promoting universal education, and advocating for the enforcement of human rights. These efforts are focused on achieving systemic change by engaging with decision-makers and the general public. Promoting commercial products, such as soft drinks, is a function of commercial advertising and does not fall under the umbrella of advocacy for social and developmental goals in various contexts.

144. (B) Combine powerful visuals, sound, and narrative to create emotional impact.
Cinema is a uniquely powerful medium for development communication due to its ability to engage audiences through multi-sensory storytelling. By combining moving images, sound, and compelling narratives, film can create deep emotional connections and make complex social issues relatable. This large-scale impact is effective for raising awareness, challenging social norms, and motivating collective action. While it requires significant resources, cinema remains a highly effective tool for reaching diverse audiences and inspiring social change on a grand scale through the power of visual media.

145. (B) Local level
Self-help groups are small, community-based organizations where individuals work together to achieve common goals, such as financial independence or social improvement. Because they are rooted in the community and operated by the members themselves, they are a primary example of local-level development agencies. These groups provide a platform for participation, empowerment, and mutual support, making them essential for grassroots development. Their work demonstrates the importance of local agency and collective action in addressing the specific challenges faced by individuals and their communities.

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146. (A) Both Statement I and Statement II are true.
Statistical tests are categorized based on the assumptions they make about the data. Parametric tests are more powerful because they rely on the assumption of a normal distribution, while non-parametric tests are "distribution-free" and more flexible. Researchers must choose the appropriate test based on whether their data meets the requirements of parametric analysis. Both types of tests are essential for conducting rigorous research and for drawing meaningful conclusions from quantitative data in the fields of communication, social science, and various development studies.

147. (C) Extreme emotional states like anger or fear.
Psychological barriers are internal mental states that interfere with an individual's ability to communicate effectively. When a person is experiencing intense emotions, their focus shifts away from the message and toward their own internal feelings. This can lead to distorted interpretations, defensiveness, or a complete shutdown of communication. Recognizing and managing these emotional states is essential for ensuring that messages are received and understood as intended. Effective communication requires a degree of emotional stability and a focus on mutual understanding during any interaction.

148. (D) Schramm's Model
Wilbur Schramm's interactive model was a significant advancement in communication theory because it introduced the concept of the 'field of experience'. This idea emphasizes that for communication to be successful, there must be a shared area of knowledge and experience between the sender and the receiver. Without this common ground, messages are likely to be misunderstood. This model highlights the importance of cultural context and individual background in the communication process, making it a vital framework for designing effective development and social messages.

149. (C) The United Nations Development Programme (UNDP)

allows community members to share their own news, stories, and concerns, fostering a sense of ownership and dialogue. Wall newspapers are particularly valuable in rural areas with limited access to modern media, providing a vital platform for local information and social interaction.

203. (D) World Bank → Government of India → A local SHG in Bihar
Development communication occurs through a hierarchy of organizations that work together across different levels of society. This structure begins with international agencies like the World Bank that provide global leadership and funding. National governments translate these goals into national policies and programs. Finally, local-level organizations like self-help groups work directly with the community to implement interventions and achieve grassroots development. Understanding this hierarchy is essential for comprehending how development efforts are coordinated and how they impact individuals and communities at the local level.

204. (B) Mann-Whitney U test
The Mann-Whitney U test is the non-parametric equivalent of the independent samples t-test. It is used to compare the difference between two independent groups when the data is in the form of ranks or does not meet the assumptions of normality required for a t-test. This flexible tool allows researchers to test for significant differences between groups without assuming a specific distribution of the data. This is particularly useful for analyzing ordinal data or small samples commonly found in social science and development communication research.

205. (C) We form a general impression based on a single positive characteristic.
The halo effect is a common perceptual error where our overall impression of a person is influenced by one specific positive trait, such as their appearance or expertise. This can lead us to assume that they possess other positive qualities as well, even if we have no evidence for them. In communication, the halo effect can significantly influence how we perceive the credibility and trustworthiness of a speaker. Recognizing this bias is essential for becoming more critical and objective consumers of information and for making more accurate judgments about others.

206. (D) Later theories recognized audiences as active and media effects as complex.
The history of mass communication theory reflects a significant evolution in our understanding of the relationship between media and its audience. Early models portrayed the audience as a passive mass that was easily manipulated by direct media effects. However, later theories acknowledged that receivers are active participants who select and interpret messages based on their own needs and experiences. This recognition of complex and mediated effects has led to more sophisticated and audience-centered strategies in development communication, emphasizing the importance of interpersonal influence and social context.

207. (C) (a), (b), (c), and (e)
Modern development communication is based on a core set of principles that prioritize community involvement and social justice. This includes fostering participation through horizontal dialogue and building the capacity for empowerment and social change. These participatory approaches shift the focus away from top-down instruction toward co-creating solutions with the people themselves. By emphasizing dialogue and mutual learning, development communication seeks to ensure that progress is culturally appropriate, sustainable, and truly reflective of the needs and aspirations of marginalized and underserved communities in a given society.

208. (B) Philip Kotler and Gerald Zaltman
The concept of social marketing was first formally introduced by Philip Kotler and Gerald Zaltman in 1971. They proposed that the systematic principles used in commercial marketing could be effectively applied to the promotion of social causes and beneficial behaviors. This research-based approach involves analyzing audience needs, identifying barriers to change, and designing interventions that make the desired behavior more attractive. Their work laid the foundation for a new field of practice that has become an essential tool for achieving positive and sustainable behavior change globally.

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209. (B) Combining sight, sound, and motion for a high-impact message.
Television is a powerful development communication medium due to its multi-sensory nature, which allows for highly engaging and emotional storytelling. By combining visual images with sound and motion, it can create a strong impact and make complex social issues relatable to a large and diverse audience. This high-definition format is effective for modeling new behaviors and for raising national awareness on critical development goals. Despite its high production costs, television remains a critical tool for reaching millions of people and for driving social change on a grand scale.

210. (A) Celebrity gossip
Development communication is a purposeful field focused on addressing social challenges and improving the quality of human life. Its primary concerns include areas such as health, education, tribal development, and human rights. Celebrity gossip, while a common feature of mainstream media, does not contribute to these social and developmental goals and is therefore not a concern of this field. Development communication seeks to empower individuals and communities to overcome systemic barriers and to participate in the long-term progress of their society and country as a whole.

211. (C) Tailor interventions based on an individual's readiness to change.
The stages of change model is an invaluable tool for behavior change communication because it recognizes that individuals are at different points in their journey toward adopting a new behavior. By identifying which stage an individual is in—whether they are just becoming aware or are ready to take action—communicators can provide the specific information and support they need most. This tailored approach increases the efficiency and effectiveness of interventions, ensuring that messages are relevant and motivational based on each person's current status and needs.

212. (A) P-4, Q-3, R-2, S-1
Development communication utilizes a wide range of media forms, each serving a distinct purpose and audience. Traditional folk songs are culturally rooted and effective for rural engagement. Modern media like 35mm film provide large-scale emotional storytelling. New media, such as social media campaigns, allow for rapid two-way interaction and mobilization. Advocacy media, like policy briefs, are targeted at decision-makers to influence systemic change. Understanding these categories is essential for selecting the most appropriate and effective tools to achieve specific social and developmental objectives across diverse settings and contexts.

213. (C) India's public service broadcaster (National)
Prasar Bharati is India's national public service broadcaster, encompassing both All India Radio and Doordarshan. Its primary mission is to provide high-quality and culturally relevant information, education, and entertainment to the entire country. As a national agency, it carries government messages on critical development issues and ensures that essential information reaches even the most remote populations. Prasar Bharati plays a central role in the state's efforts to communicate with its citizens and to promote social welfare and national progress through its extensive broadcasting networks across India.

214. (B) In the form of ranks or categories.
Non-parametric tests are the preferred choice when data is measured on a nominal or ordinal scale, such as categories or ranks. These tests are more flexible because they do not assume that the data follows a specific distribution, such as a normal curve. They are particularly useful in social science and development communication research, where data is often non-continuous or collected from small samples. By using these distribution-free methods, researchers can still perform robust statistical analysis and draw meaningful conclusions without violating the assumptions required for parametric tests.

215. (D) An active process of receiving, understanding, and responding to messages.
Listening is much more than the physical act of hearing; it is a complex and active cognitive process. It involves focusing on the speaker, interpreting the meaning of their words and non-verbal cues, and providing a thoughtful response to complete the interaction. Effective listening requires patience, empathy, and a commitment to fully understanding the other person's perspective. This active engagement is a fundamental skill for successful interpersonal

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communication and for the participatory dialogue that is essential for sustainable and inclusive development in any community.

216. (A) Both A and R are true and R is the correct explanation of A.
Culture and communication are inextricably linked, as each shapes and is shaped by the other. A person's cultural background provides the framework for understanding social norms, language, and the appropriate way to interact with others. At the same time, communication is the primary vehicle through which culture is transmitted and reinforced within a group. This deep connection means that any effective communication intervention must be culturally sensitive and aligned with the values and experiences of the target audience to ensure its success.

217. (C) Horizontal communication and co-creation of solutions with the community.
The participatory approach represents a fundamental shift in development communication toward more inclusive and equitable models. It prioritizes horizontal dialogue and mutual learning between experts and local people, ensuring that interventions are locally owned and culturally appropriate. By involving community members in the co-creation of solutions, this approach fosters empowerment and increases the likelihood of long-term sustainability. This shift away from top-down, one-way information flow acknowledges that communities are the best experts on their own lives and that their participation is essential for successful social change.

218. (A) Innovators
In the diffusion of innovations theory, innovators are the first group of individuals to adopt a new idea or technology. They are characterized by their willingness to take risks, their higher social status, and their close contact with scientific sources and other innovators. While they represent a small percentage of the population, their early adoption is critical for introducing new practices into a social system. Innovators play a vital role in the early stages of a development project by demonstrating the feasibility and potential benefits of an innovation.

219. (D) A catchy headline, short paragraphs, bullet points, and multimedia.
Writing for digital audiences requires a strategic approach that accounts for the way people consume information online. Effective blog posts use catchy headlines to grab attention and short paragraphs and bullet points to make the content easy to scan. The inclusion of multimedia, such as images and videos, increases engagement and helps to illustrate complex development issues. This visually appealing and concise format ensures that information is accessible, shareable, and actionable for a diverse and often time-pressed internet audience, making it a powerful tool for social change.

220. (B) Governance and human rights
Promoting voter participation and informed decision-making is a critical component of good governance and the protection of human rights. These communication campaigns are essential for ensuring that citizens can exercise their right to participate in the democratic process and hold their leaders accountable. By providing accurate information about elections and candidates, these initiatives empower individuals to make choices that affect the future of their communities and country. This focus on civic engagement is fundamental for building strong, transparent, and democratic institutions that support sustainable national development.

221. (C) Theory of Planned Behavior
This influential psychological model provides a framework for understanding and predicting human action. It suggests that a person's behavior is directly influenced by their intention to perform it, which is in turn shaped by their attitude toward the behavior, subjective norms, and perceived behavioral control. This model emphasizes that individuals are more likely to take action when they believe it is beneficial, socially supported, and within their ability to perform. Understanding these cognitive factors is essential for designing effective behavior change interventions in various development and health contexts.

222. (D) Social advertising/marketing
While commercial advertising is focused on selling products for profit, social advertising uses similar techniques to promote behaviors that

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benefit the public good. In this case, promoting handwashing with soap is a strategic effort to improve health and prevent the spread of disease. This type of communication aims to influence social norms and individual actions for the benefit of society as a whole. Social advertising and marketing are essential tools in development communication for addressing public health challenges and for promoting positive social and behavioral change in diverse populations.

223. (A) Advocating for press freedom and the safety of journalists.
International non-governmental organizations like Reporters Without Borders play a vital role in development by protecting the right to freedom of information. They advocate for the safety of journalists and work to expose censorship and other threats to media freedom around the world. By ensuring that journalists can work without fear, these organizations help to foster the transparent and accountable environment needed for sustainable development. Their work highlights the critical importance of a free and independent press in informing the public and supporting democratic processes and social justice globally.

224. (D) Pearson Product-Moment Correlation
The Pearson correlation is a parametric statistical test used to measure the strength and direction of the linear relationship between two continuous variables. It requires that the data be measured on an interval or ratio scale and that the variables follow a normal distribution. This powerful tool is frequently used in research to identify patterns and relationships between different factors, such as the relationship between media exposure and knowledge levels. Understanding the appropriate use of parametric tests is essential for conducting rigorous and reliable statistical analysis in communication and development studies.

225. (B) It is where individuals formulate their thoughts and feelings before expressing them to others.
Intrapersonal communication is the fundamental internal process of thinking and reflection that occurs within the individual. It is through this internal dialogue that we process information, form our attitudes, and decide what and how to communicate with the outside world. This level of communication is a necessary prerequisite for all other forms of interaction, as it provides the cognitive foundation for interpersonal, group, and mass communication. Understanding the internal processes of thought and self-reflection is essential for appreciating the complexity of human interaction and social behavior.

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226. (A) Lasswell's model
Harold Lasswell's 1948 model is one of the most foundational frameworks in the study of mass communication. It provides a simple but powerful structure for analyzing the communication process by asking five key questions: Who says What, in which Channel, to Whom, and with what Effect? This model highlights the primary elements of sender, message, medium, receiver, and impact. While it is a linear representation, it remains a useful tool for organizing research and for understanding the basic flow of information from a source to an audience in various contexts.

227. (C) The Participatory Paradigm
The participatory paradigm represents a community-centered approach to development that prioritizes the needs and voices of the people themselves. It emphasizes that development projects should be owned and managed by the community to ensure their relevance and sustainability. This horizontal and inclusive model shifts the focus away from top-down expert control toward empowerment and social justice. By fostering active participation in every stage of a project, this approach ensures that development is truly a process "of the people, by the people, and for the people," leading to more equitable social progress.

228. (A) (a), (b), and (c)
The field of development communication is shaped by several key theoretical frameworks and models. The diffusion of innovations model explains how new ideas spread through social networks. Social marketing applies research-based marketing principles to achieve social goals. The dominant paradigm was historically characterized by top-down, one-way information flow from experts to audiences. In contrast, modern participatory approaches view community members as active agents rather than passive recipients. Understanding these diverse perspectives is essential for designing effective

communication strategies that address the complex social and cultural factors that influence development.

229. (C) Journalism is critical and analytical, while PR is promotional and one-sided.
A fundamental difference between these two forms of communication lies in their purpose and perspective. Development journalism seeks to provide a balanced and critical analysis of the progress and challenges of social change, often highlighting the voices of the marginalized. In contrast, government public relations is focused on promoting official policies and accomplishments, often from a one-sided perspective. Understanding this distinction is essential for citizens to evaluate the information they receive and for ensuring that the media can play a transparent and accountable role in the development process.

230. (B) Health communication
Reducing maternal and child mortality is a primary goal of health communication in the development context. These programs use strategic messages to promote prenatal care, safe delivery practices, and childhood nutrition and vaccinations. By providing information and motivation to mothers and their families, these initiatives can significantly improve health outcomes and reduce deaths. This focus reflects the understanding that healthy mothers and children are the foundation of a thriving society and that health is a critical component of any sustainable and equitable national development project.

231. (D) Policymakers, leaders, and other influential and powerful individuals
Advocacy communication is a targeted strategic effort intended to influence those who have the power to change policies, laws, and resource allocations. Unlike general awareness campaigns aimed at the public, advocacy directly engages with policymakers, community leaders, and other influencers. The goal is to provide these decision-makers with evidence-based arguments and to persuade them to take action on specific social and developmental issues. This targeted approach is essential for achieving systemic changes and for ensuring that the needs of marginalized populations are addressed through official policy and action.

232. (A) Accessible, low-cost, participatory, and uses local language.
Community radio is a uniquely powerful development tool because it is rooted in the local community and operated by the people themselves. Its low cost and accessibility make it a viable medium even in remote areas. By broadcasting in local dialects and addressing specific local concerns, it fosters a sense of ownership and social cohesion. This participatory approach ensures that the voices of the community are heard and that development information is relevant and impactful. Community radio empowers individuals to address the challenges that directly affect their lives and communities.

233. (C) Local/grassroots level
Grassroots organizations, such as local NGOs, work directly with communities to address social and developmental issues. Their use of participatory media like street theatre and public meetings ensures that their work is culturally relevant and engaging. By operating at the local level, these organizations can identify the specific needs of the people and empower them to take collective action. This bottom-up approach is essential for achieving sustainable and meaningful improvements in areas like sanitation and public health through direct engagement and the mobilization of community members at the very local level.

234. (D) Statement I is false, but Statement II is true.
Statistical analysis requires the careful selection of tests based on the level of data measurement. Nominal data, which involves discrete categories, cannot be used with parametric tests like the t-test, which require continuous data and specific assumptions about distribution. Instead, non-parametric tests are the appropriate choice for analyzing nominal and ordinal data, as they are more flexible and do not assume a normal distribution. Understanding this distinction is essential for conducting accurate research and for ensuring that the findings and conclusions of statistical analysis are reliable and valid.

235. (D) The communicator should consider the audience's frame of reference.

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the community's own capacity to identify and address the issues that affect their well-being and future.

248. (A) Information and Communication Technology
ICT is a broad term encompassing a range of technological tools and resources used to transmit, store, and manage information. In the context of development, it includes everything from traditional media like radio to modern digital tools like the internet and mobile phones. These technologies are essential for bridging the information gap, improving access to services, and fostering participation in marginalized communities. Understanding the role of ICTs is fundamental for modern development communication, as they provide new and powerful opportunities for education, empowerment, and long-term social and economic progress.

249. (C) Communicating government programs to the public through various media.
National-level agencies like the DAVP in India are responsible for the broad dissemination of information about government policies and programs to the entire country. Their work involves using various media channels, such as print, broadcast, and visual media, to raise public awareness on issues of national importance. This centralized communication effort ensures that essential development information reaches a wide and diverse audience. By communicating government goals and initiatives effectively, these agencies support national welfare programs and foster public understanding and participation in the country's overall development process and social progress.

250. (A) Interval or Ratio
Parametric statistical tests, such as the t-test and ANOVA, require that the data be measured on at least an interval or ratio scale. These scales provide precise numerical values with equal distances between points, allowing for more powerful and detailed analysis. Furthermore, these tests rely on the assumption that the data is drawn from a normally distributed population. Understanding the level of measurement is essential for selecting the correct statistical tools to ensure that the findings of a research study are accurate, reliable, and valid for drawing scientific conclusions from quantitative datasets.

251. (B) To act as a psychological filter that can create a barrier.
Perception is defined as the subjective interpretation of sensory information. It functions as a primary psychological filter within the communication process. This filtering mechanism can significantly impede mutual understanding between individuals, thereby acting as a substantial barrier. Effective interaction requires recognizing how these subjective interpretations influence the way messages are received and processed by various participants in any given context.

252. (A) The process of listening.
Listening is explicitly described as an active skill rather than a passive act. This engagement involves receiving, interpreting, and responding to messages to ensure full understanding. Unlike merely hearing, active listening requires conscious effort and commitment. It plays a vital role across various communication settings, ranging from intrapersonal reflections to complex interpersonal or mass-level interactions and exchanges between people.

253. (C) Overcoming perceptual barriers and achieving persuasion.
Empathy involves the ability to understand and share the feelings of others. It serves as a crucial tool for overcoming psychological barriers created by subjective perception. By fostering a deeper connection and mutual understanding, empathy facilitates more persuasive outcomes in communication. It allows the sender to bridge the gap between different viewpoints, leading to more successful and meaningful transactions between participants.

254. (D) A dynamic, irreversible, and complex process.
Communication is fundamentally characterized as a dynamic and complex process rather than a simple transmission of information. It is essentially irreversible, meaning once a message is sent, it cannot be fully retracted. This process involves multiple elements like senders, receivers, and feedback mechanisms. Understanding its intricate nature is vital for navigating various

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too overwhelming or lacks a clear solution. For a fear appeal to be effective, it must be accompanied by high "efficacy" messages that provide simple and achievable steps for the audience to protect themselves. Without this balance, fear can become a barrier to action rather than a motivator for positive and sustainable behavior change.

242. (A) The process is controlled by the community members themselves.
Participatory video is a process-oriented communication tool that empowers communities to document their own lives and perspectives. The defining feature of this approach is that the community members themselves control every stage of the process, from planning and filming to editing and sharing the final product. This shifts the power away from external experts and allows the community to tell their own stories in their own way. Participatory video is a powerful tool for self-reflection, community dialogue, and advocacy, fostering a sense of empowerment and social change.

243. (C) Using satellite television for local, needs-based developmental programs.
The Kheda Communications Project in India is a pioneering historical example of using modern technology for local development. By using satellite television to broadcast needs-based programs specifically for rural audiences in the Kheda district, the project demonstrated the potential of media to address localized social and economic challenges. It focused on issues such as agriculture, health, and social education, involving the community in the production process. This project remains a classic case study in the strategic use of communication technology for sustainable and participatory regional development.

244. (D) Kruskal-Wallis test
The Kruskal-Wallis test is the non-parametric equivalent of the one-way ANOVA. It is used to compare the medians of three or more independent groups when the data is not normally distributed or is in the form of ranks. This test is particularly useful for analyzing income data, which is often skewed by extreme values and does not follow a normal curve. By using this distribution-free method, researchers can determine if there are significant differences between the groups without making the rigid assumptions required by parametric analysis, ensuring valid research conclusions.

245. (D) Symbols are not the things they represent; their meaning is in people.
This influential principle of general semantics highlights that communication is a process of representation, not reality itself. Symbols, such as words or images, are not the actual objects or ideas they stand for; their meaning is created through the human process of interpretation. This means that the same symbol can have very different meanings for different people based on their unique experiences and cultural backgrounds. Recognizing this distinction is essential for avoiding misunderstandings and for becoming more mindful of the complex way that meaning is co-created through human symbolic interaction and communication.

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246. (B) Mechanical
Communication occurs at various levels of social interaction, each with its own characteristics and settings. These include intrapersonal communication within the individual, interpersonal communication between two people, group communication among several individuals, and mass communication to a large audience through a medium. While mechanical devices are used as channels for communication, the term "mechanical" is not considered a distinct level or setting of human communication transaction itself. Understanding these primary levels is essential for analyzing and designing effective communication strategies across different social and developmental contexts and diverse audience types.

247. (D) Enhancing communities' capacity to identify problems and take collective action.
The empowerment model of development communication focuses on building the long-term ability of communities to solve their own challenges. It shifts the focus away from providing material aid to fostering agency and critical awareness. By providing information and skills, this approach enables communities to advocate for their rights and to take collective action for social change. Empowerment is a multi-dimensional process that ensures development is sustainable and equitable, as it is based on

A key principle of effective communication is the importance of understanding and respecting the audience's perspective. Every individual interprets messages through their own unique "frame of reference," which is shaped by their cultural background, experiences, and values. By considering these factors, a communicator can design messages that are more relevant, accessible, and persuasive. This audience-centered approach minimizes potential misunderstandings and increases the likelihood that the message will be accepted and understood as intended, making it essential for any successful interaction, especially in complex development and social contexts.

236. (B) Cultivation Theory
This theory explores the long-term effects of television on the audience's perception of social reality. It suggests that individuals who watch a great deal of television, particularly content featuring violence, are more likely to perceive the real world as a dangerous and threatening place, a phenomenon known as the "mean world syndrome." This cultivation occurs gradually through repeated exposure to consistent themes and images over time. Understanding this theory is essential for analyzing how media content can shape social attitudes and behaviors in ways that may not reflect actual reality.

237. (C) The Participatory Communication for Social Change Approach
This model prioritizes horizontal dialogue and the development of a critical awareness, or "conscientization," within the community. Instead of a top-down transfer of information, it emphasizes mutual learning and co-creating solutions to social challenges. By fostering dialogue and reflection, this approach empowers individuals to identify their own problems and take collective action to transform their lives. This participatory framework is essential for achieving truly sustainable and equitable development outcomes that are rooted in the community's own values and aspirations for social justice and progress in their lives.

238. (D) The degree to which an innovation is perceived as better than the existing idea.
Relative advantage is one of the most critical factors influencing the rate of adoption of a new innovation. If individuals perceive that a new practice or technology offers significant benefits—such as increased efficiency, lower cost, or improved social status—compared to what they are currently using, they are much more likely to adopt it. This perception of superiority is a powerful motivator for change. Development communicators must focus on highlighting these relative advantages to encourage the acceptance and widespread use of beneficial new ideas and behaviors within a social system.

239. (A) Translate complex technical reports and statistics into compelling stories.
A primary skill of a development journalist is the ability to bridge the gap between expert knowledge and the general public. This involves more than just reporting data; it requires transforming complex technical information into accessible and engaging narratives that resonate with the audience. By humanizing abstract issues and highlighting their real-world impact, journalists can inform and empower citizens. this ability to make development information understandable and relatable is essential for fostering the public dialogue and community engagement needed for meaningful and sustainable social and national progress and development.

240. (B) Exacerbates existing inequalities by limiting access to key opportunities.
The digital divide represents a significant form of social and economic inequality in the modern world. Those without access to information and communication technologies are at a major disadvantage, as they have limited access to essential information, educational resources, and economic opportunities. In development communication, addressing this gap is a critical priority for ensuring that all members of society can benefit from the progress of the digital age. The digital divide reinforces existing disparities, making it a major barrier to achieving truly inclusive and equitable sustainable development for all populations.

241. (A) Both A and R are true and R is the correct explanation of A.
Fear appeals are a common persuasive strategy that must be used with significant caution in behavior change communication. While creating a sense of threat can grab attention, it can also lead to defensiveness or denial if the message is

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levels of interaction effectively in any professional context.

255. (C) Intrapersonal, Interpersonal, Group, Mass.
The levels of communication transaction follow a logical progression based on scale and complexity. It begins at the intrapersonal level, which involves internal communication with oneself. The sequence then expands to interpersonal interactions between individuals, followed by group dynamics and public settings. Finally, mass communication represents the largest scale, involving mediated messages intended for broad and often anonymous audiences worldwide.

256. (B) Mass communication theories.
Mass communication theories specifically analyze how mediated messages influence large, anonymous audiences. These frameworks explore societal-level effects such as the setting of public agendas and the cultivation of specific beliefs through media exposure. They differ from human interaction theories by focusing on the broader impact of media systems rather than individual relationship dynamics or specific message construction techniques and interactions.

257. (D) To provide frameworks for constructing effective messages.
Message design theories bridge the gap between human interaction and mass communication domains. They provide structured frameworks for constructing messages that are persuasive, comprehensible, and effective. These theories focus on achieving specific goals regardless of the channel used. By applying these principles, communicators ensure their content is strategically designed to meet the intended objectives within any robust communication system.

258. (A) One where culture shapes communication, and communication perpetuates culture.
Culture and communication share an intricate and constitutive relationship where both elements influence each other. Culture serves as a framework that shapes how messages are encoded and interpreted. Simultaneously, communication acts as the primary vehicle through which cultural values are produced, maintained, and transformed. This symbiotic link ensures that every communication system is fundamentally embedded within a specific cultural context.

259. (C) Human interaction theories.
Human interaction theories focus on the dynamics of interpersonal and group communication. These theories examine how individuals negotiate meaning, build relationships, and manage social identities through their communicative acts. For a researcher studying conversations between friends, this theoretical domain provides the necessary tools to analyze the nuances of individual relationship building and the management of social bonds through daily interaction.

260. (A) They are fundamentally shaped by their cultural context.
Communication systems are not isolated processes but are fundamentally embedded within cultural frameworks. Culture is a constitutive element that influences everything from non-verbal cues to the narrative structures of mass media. Every robust communication system, whether involving interpersonal dialogue or mass-mediated content, reflects and is shaped by its cultural environment. Understanding this context is essential for decoding and interpretation.

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261. (D) It has moved from a purely economic definition to a multidimensional one.
The conceptualization of development has undergone a significant shift over time. Initially, it was synonymous with economic growth measured by metrics like Gross National Product. However, modern theories advocate for a more holistic perspective. This multidimensional view integrates social, political, cultural, and environmental factors, recognizing that true progress encompasses human well-being far beyond simple indicators of economic prosperity alone.

262. (B) It fails to account for non-economic aspects of human well-being.
Using Gross National Product as the sole measure of development is limited because it focuses strictly on economic growth. It overlooks vital non-economic dimensions of human well-being, such as health, education, and political freedom.

Modern development models recognize that economic metrics are insufficient on their own. Therefore, composite indicators are required to provide a more comprehensive assessment of overall societal progress.

263. (C) A composite indicator for a holistic measurement of development.
The Human Development Index serves as a prime example of a composite indicator. It combines various measures, including life expectancy, education levels, and income, to rank countries. This approach reflects a shift toward a more holistic and multidimensional measurement of development. By integrating multiple factors, the index provides a broader assessment of human well-being compared to traditional economic metrics alone.

264. (D) It is a process that reflects specific values and priorities.
Measuring development is not a neutral or purely technical exercise. Instead, it is a value-laden process that reflects specific priorities and definitions of what constitutes a good society. The choice of certain indicators and models is influenced by the underlying development theory being applied. Consequently, these measurements reveal the fundamental values and goals prioritized by different organizations and nations.

265. (A) An alternative development paradigm.
Development models that prioritize empowerment and participatory growth are classified as alternative paradigms. These approaches diverge from traditional modernization theories that focus primarily on economic growth and top-down implementation. Instead, they emphasize people-centered progress, equity, and sustainability. Such models aim to give communities more control over their own development processes, ensuring that growth is inclusive and truly beneficial.

266. (B) To influence behaviors for the benefit of society.
Social marketing utilizes commercial marketing principles and techniques for non-commercial purposes. Its primary goal is to influence individual and collective behaviors for societal benefit. This involves promoting pro-social habits, such as adopting better health practices or environmental conservation. Unlike traditional marketing, which seeks commercial profit, social marketing focuses on achieving positive social change through strategic communication and research.

267. (B) New ideas and technologies through a social system.
The diffusion of innovations theory provides a framework for understanding how new ideas and technologies spread through a culture. This process occurs over time through specific channels among members of a social system. The theory explores why and at what rate these innovations are adopted. It highlights the roles of various elements, including information sources and community leaders.

268. (A) Creating awareness and disseminating information widely.
Within the diffusion of innovations model, mass media play a pivotal role as a catalyst for change. Their primary function is to create awareness and disseminate information about new ideas or technologies to a broad audience. This widespread reach is essential for the initial stages of the diffusion process. By informing large groups quickly, mass media foundations occur.

269. (C) Tendency to be top-down in nature.
Early diffusion of innovations models have faced significant criticism for their top-down nature. These models often prioritized the flow of information from experts to the public without sufficient community engagement. This lack of participation led to the development of more inclusive approaches. Modern development communication now emphasizes the importance of two-way dialogue and participatory methods to ensure sustainable change.

270. (D) Adapted carefully to local contexts.
For both diffusion of innovations and social marketing to be successful, interventions must be carefully adapted to local contexts. Applying external ideas without considering specific cultural and social environments can lead to failure or community resistance. Effectiveness depends on respecting local knowledge and ensuring community engagement. Strategic

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adaptation allows these structured approaches to resonate with the intended target audience.

271. (C) Facilitating participation and empowering communities.
Communication in development is fundamentally important for its role in facilitating participatory processes. It empowers communities by allowing them to identify their own needs and become active agents in their own progress. This approach moves beyond simple information dissemination toward a dialogical engagement. By fostering two-way communication, development initiatives can ensure that the voices of the people are central.

272. (B) It concentrates on the processes of development rather than just events.
Development journalism is distinguished from conventional journalism by its focus on the processes of development. While traditional reporting often centers on isolated events and high-profile personalities, development journalism provides in-depth, contextualized coverage of development issues. It aims to create public awareness and foster constructive debate regarding successes and challenges. This specialized reporting helps the public understand long-term journeys of change.

273. (D) It can reach remote and low-literacy populations effectively.
Radio is a vital medium in development communication due to its unique accessibility. It effectively reaches remote geographical areas and populations with low literacy levels. By using formats like dramas, talk shows, and jingles, radio conveys complex messages in an understandable way. Its ability to communicate in local languages further enhances its role as a powerful tool for education.

274. (A) Adapting messages and formats for specific media like radio and TV.
Effective writing for development requires the strategic adaptation of messages for specific media platforms. Each medium, such as print, radio, or television, has unique strengths and audience requirements. For instance, radio focuses on accessible oral formats, while television leverages visual storytelling. By tailoring content to suit the medium, development communicators can maximize the impact and reach of messages.

275. (C) A mechanism for informing, educating, and mobilizing.
The overall role of communication in development is best described as a mechanism for informing, educating, and mobilizing the public. It goes beyond simple dissemination to create a space for discourse and community engagement. By providing necessary information and fostering learning, communication empowers individuals to take action. This multi-faceted role is essential for driving sustainable social change and progress.

276. (A) By challenging discriminatory norms and promoting equality.
In development communication, the concern of gender is addressed by using targeted interventions to challenge discriminatory social norms. The goal is to promote equality and empower women within their communities. Communication serves as a tool for raising awareness about gender-based issues and advocating for structural changes. By addressing these prejudices, development efforts aim to create a more equitable society.

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277. (D) Context-specific and respectful of cultural sensitivities.
Communication strategies for rural and tribal development must be context-specific. They require a deep respect for indigenous knowledge and cultural sensitivities unique to these communities. Generic messaging is often ineffective in these settings because it fails to account for local realities. Successful interventions involve designing nuanced communication that speaks directly to the people, ensuring their specific cultural frameworks are respected.

278. (B) Literacy.
Literacy is uniquely positioned as both a primary goal and a crucial facilitator of development communication. As a goal, increasing literacy levels directly contributes to human development and empowerment. As a facilitator, literacy enables individuals to access and engage with a wider range of information and communication materials. Improving literacy rates enhances the overall effectiveness of all other communication interventions.

(C) Planning - Putting the plan into action
(D) Monitoring - A final assessment of worth

27. The development of an individual's willingness and ability to undertake a business venture, with a chance of profit and risk, is known as:
(A) Wage employment generation
(B) Human resource planning
(C) Corporate social responsibility
(D) Entrepreneurship development

28. Which of the following is a primary objective of training for human resource development?
(A) To decrease the organization's productivity
(B) To bridge the gap between required and existing job performance
(C) To increase employee dissatisfaction
(D) To create a more rigid and less adaptive workforce

29. Match the methods in List I with the characteristics in List II concerning training methods.
List I: (Method)
P. On-the-job training
Q. Lecture method
R. Case study method
S. Role playing
List II: (Characteristic)
1. Analysis of a real or hypothetical business problem
2. Acting out a situation to understand different perspectives
3. Learning while performing the actual job
4. One-way communication to a large audience
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-4, R-1, S-2
(C) P-2, Q-1, R-4, S-3
(D) P-4, Q-3, R-2, S-1

30. The community development perspective that emphasizes self-help, mutual support, and collective action by community members is known as:
(A) A top-down approach
(B) A regulatory approach
(C) A welfare approach
(D) A grassroots approach

31. A voluntary, non-profit organization that works for social, cultural, or environmental causes at a local, national, or international level is best described as a(n):
(A) Non-Governmental Organisation (NGO)
(B) Panchayati Raj Institution (PRI)
(C) Government department
(D) Corporate entity

32. Consider the following statements regarding support structures for community development:
(a) Panchayati Raj Institutions (PRIs) are constitutional bodies for local self-governance in rural India.
(b) NGOs often play a role in supplementing government efforts and reaching marginalized groups.
(c) Community Based Organisations (CBOs) are typically formed by community members to address their own local needs.
(d) All support structures for community development are directly funded and controlled by the central government.
Which of the above statements are correct?
(A) (a) and (d) only
(B) (b) and (c) only
(C) (a), (b) and (c) only
(D) (b), (c) and (d) only

33. Read the following statements and select the correct option.
Statement I : Community organization is a process by which a community identifies its needs or objectives, orders them, and develops the confidence and will to work at them.
Statement II : Effective community leadership is irrelevant for successful community organization.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

34. A key characteristic of a "Community Based Organisation" (CBO) is that it is:
(A) Formed and managed by members of the community itself
(B) Operated by external experts without local participation
(C) Managed as a for-profit company seeking financial gain
(D) Composed of government officials appointed to the region

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Community radio and participatory video are interactive ICT tools that empower local populations. These platforms provide communities with a voice and a space to discuss local issues in their own languages. By enabling people to document their own realities and participate in the communication process, these media forms foster a sense of ownership. They are essential for grassroots mobilization efforts.

288. (B) Modern mass media like cinema.
Modern mass media, including cinema and advertisements, offer the significant advantage of scale. These platforms can reach vast and diverse audiences with professionally produced messages. However, this broad reach often comes with higher production and distribution costs compared to traditional forms. While they are less participatory than community-based media, their ability to disseminate information widely makes them a powerful tool.

289. (D) Less participatory but have a broader reach.
Modern mass media are contrasted with traditional media primarily based on their reach and level of participation. While modern media like cinema and advertisements can reach much larger and more diverse audiences, they are generally less participatory. Traditional media, although smaller in scale, offer higher cultural resonance and community engagement. Understanding these differences is crucial for selecting the right media mix.

290. (A) Integrating different media to leverage their unique strengths.
An effective development strategy involves an integrated approach that leverages the unique strengths of various media types. This includes using traditional forms for their cultural rootedness, modern mass media for their broad reach, and new ICTs for their interactive potential. By combining these different channels, communicators can ensure that their messages are both widely disseminated and deeply resonant globally.

291. (C) Setting global agendas, funding initiatives, and providing technical assistance.
International agencies such as UNESCO, UNICEF, and the World Bank play a major role in the global development communication ecosystem. They are responsible for setting agendas, funding various initiatives, and promoting international norms. Furthermore, they provide essential technical assistance and resources to national governments. These organizations help establish a framework of best practices that guides development efforts at multiple levels.

292. (A) Local organisations like NGOs and CBOs.
Local organizations, including non-governmental organizations and community-based organizations, are crucial for grassroots mobilization. They work directly with populations to ensure that development communication interventions are contextually relevant and participatory. These entities possess a deep understanding of local needs and cultural nuances, making them indispensable for implementing sustainable change. Their involvement ensures that community voices are heard and integrated.

293. (D) Government ministries.
At the national level, government ministries are the key actors responsible for development communication. Ministries such as Health, Agriculture, or Information formulate and implement national policies and large-scale campaigns. They set the strategic direction for the country's development goals and ensure that resources are allocated appropriately. These national-level efforts are often adapted by state and local bodies for specific regions.

294. (B) A multi-tiered framework from international to local levels.
The organizational structure within development communication is a multi-tiered framework. This complex ecosystem spans from international agencies to national governments, state-level bodies, and finally to local NGOs and community groups. Each tier plays a distinct but interconnected role, ranging from agenda-setting and policy formulation to grassroots implementation. This layered approach allows for a comprehensive and coordinated effort.

295. (C) The coordination and collaboration among the different tiers.
The overall effectiveness of development communication relies heavily on the coordination

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(B) The physical process of typing the report
(C) Making sense of the results and explaining what they mean
(D) Designing the initial research question

46. Which of the following is a principle of effective data presentation?
(A) Using overly complex and colorful graphs to impress the reader
(B) Hiding data that does not support the hypothesis
(C) Avoiding the use of tables and figures altogether
(D) Presenting data in a clear, concise, and accurate manner

47. Read the following statements and select the correct option.
Statement I : The genesis of extension systems in many countries, including the USA, is linked to land-grant universities.
Statement II : The primary objective of early extension efforts was solely to control rural populations.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

48. A needs assessment survey reveals that a major problem in a village is low crop yield due to poor quality seeds. This finding is a crucial input for which stage of programme management?
(A) Final evaluation
(B) Planning
(C) Dissemination
(D) Archiving

49. An extension agent organizes a campaign with posters, leaflets, and a public meeting to inform an entire district about a new health initiative. This approach heavily utilizes:
(A) Interpersonal methods
(B) Large group and mass media methods
(C) Small group methods
(D) Individual casework methods

50. Consider the following statements about curriculum development for extension:
(a) It is a one-time activity that never needs revision.
(b) It must be based on the needs and problems of the learners.
(c) It should outline the objectives, content, learning activities, and evaluation procedures.
(d) Bloom's taxonomy provides a useful framework for defining learning objectives.
(e) The curriculum should be rigid and not adaptable to local conditions.
Which of the above statements are correct?
(A) (a), (c) and (e) only
(B) (b), (c) and (d) only
(C) (a), (b) and (c) only
(D) (c), (d) and (e) only

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51. The approach to education that is learner-centered, flexible, and takes place outside the formal school system is known as:
(A) Formal Education
(B) Incidental Learning
(C) Non-Formal Education
(D) Mandatory Schooling

52. The 'affective domain' in Bloom's taxonomy relates to learning that involves:
(A) Intellectual skills
(B) Physical skills
(C) Memorization of facts
(D) Attitudes, values, and emotions

53. Which of the following training methods is most suitable for developing complex decision-making and problem-solving skills in managers?
(A) Lecture Method
(B) On-the-job Coaching
(C) Case Study Method
(D) Equipment Demonstration

54. The 73rd Constitutional Amendment Act in India is significant for community development as it:
(A) Abolished all forms of local government
(B) Granted constitutional status to Panchayati Raj Institutions (PRIs)
(C) Nationalized all Non-Governmental Organisations (NGOs)
(D) Made primary education a fundamental right

55. Match the PLA techniques in List I with the purposes in List II.

CHAPTER 10

Extension Management and Community Development

1. The primary philosophy of extension education is best described as:
(A) Dictating solutions to farmers for immediate adoption
(B) Teaching people how to think, not what to think
(C) Providing financial aid for rural development
(D) Enforcing government policies at the grassroots level

2. Which of the following is a core objective of extension service?
(A) To help individuals identify and resolve their own problems
(B) To generate sustainable revenue for the national government
(C) To conduct theoretical academic research in university settings
(D) To regulate the market production of specific agricultural goods

3. Which of the following statements about the genesis of extension education in India is most accurate?
(A) It began formally only after the year 2000 with the IT revolution.
(B) It was directly imported from the United States without any modification.
(C) It has its roots in pre-independence rural reconstruction experiments.
(D) It was exclusively focused on industrial development.

4. Read the following statements and select the correct option.
Statement I : The principle of 'felt needs' in extension implies that programmes should be based on the problems identified by the people themselves.
Statement II : The principle of 'cultural difference' suggests that a single extension approach is universally applicable across all communities.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

5. The initial step in the process of extension programme development, which involves identifying the gaps between 'what is' and 'what ought to be', is known as:
(A) Implementation
(B) Monitoring
(C) Need assessment
(D) Evaluation

6. A detailed examination of the physical, social, economic, and institutional environment of a specific area to inform programme planning is called:
(A) Programme evaluation
(B) Situation analysis
(C) Programme implementation
(D) Programme monitoring

7. Read the following assertion and reason and select the correct option.
Assertion (A) : The philosophy of extension education emphasizes democratic procedures and voluntary participation.
Reason (R) : Lasting change in communities is more likely to occur when people are coerced into adopting new practices for their own good.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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8. Which one of the following is NOT a principle of extension programme development?
(A) Principle of compulsion
(B) Principle of participation
(C) Principle of leadership
(D) Principle of satisfaction

9. Which of the following is the most appropriate description of 'monitoring' in programme management?
(A) A final appraisal of the overall long-term worth of a program
(B) The active phase of putting planned activities into operation
(C) A regular process of checking activities against set targets
(D) The initial phase of gathering data about community problems

10. Match the stages in List I with the activities in List II regarding the programme management cycle.
List I: (Stage)
P. Planning
Q. Implementation
R. Evaluation
S. Situation Analysis
List II: (Activity)
1. Assessing the overall impact and outcome of the programme
2. Collecting baseline data on the existing conditions
3. Developing a blueprint or course of action
4. Executing the planned activities in the field
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-1, Q-2, R-3, S-4
(D) P-2, Q-1, R-4, S-3

11. An extension agent conducts a farm and home visit to discuss a specific problem with a single farmer's family. This is an example of:
(A) A large group method
(B) A mass communication method
(C) An organizational method
(D) An interpersonal method

12. A method demonstration where an extension professional shows a small group of farmers the step-by-step process of a new planting technique is categorized as a:
(A) Large group method
(B) Small group method
(C) Self-learning method
(D) Interpersonal method

13. Consider the following statements about extension methods:
(a) Interpersonal methods allow for high feedback and message customization.
(b) Large group methods are generally cost-effective on a per-person basis.
(c) Small group methods facilitate peer learning and discussion.
(d) Interpersonal methods are the best choice for reaching a massive, scattered audience quickly.
Which of the above statements are correct?
(A) (a) and (b) only
(B) (b), (c) and (d) only
(C) (a), (b) and (c) only
(D) (a) and (d) only

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14. The primary need for using audio-visual aids in extension is to:
(A) Replace the role of the extension agent entirely
(B) Limit the participation of the audience members
(C) Increase the cost and complexity of presentations
(D) Make the learning process more concrete and engaging

15. Which of the following is an INCORRECT statement regarding the planning and preparation of audio-visual materials?
(A) The material should be complex and text-heavy to show expertise.
(B) The aid should be relevant to the topic and the audience.
(C) The aid should be field-tested before large-scale use.
(D) The content should be clear, simple, and accurate.

16. Arrange the following steps in the process of extension programme development in the correct chronological order.
1. Implementation
2. Need Assessment
3. Monitoring and Evaluation

4. Planning
5. Situation Analysis

(A) 2, 5, 4, 1, 3
(B) 4, 5, 2, 1, 3
(C) 1, 2, 4, 5, 3
(D) 2, 4, 5, 3, 1

17. In Bloom's taxonomy, the 'Cognitive' domain of learning is primarily concerned with:
(A) The development of motor skills and physical abilities
(B) The acquisition of knowledge and intellectual abilities
(C) The changes in attitudes, values, and feelings
(D) The development of social interaction skills

18. What is the highest level of learning in the cognitive domain according to Bloom's taxonomy?
(A) Evaluation
(B) Application
(C) Analysis
(D) Synthesis

19. Read the following assertion and reason and select the correct option.
Assertion (A) : Non-formal education is characterized by its flexibility in terms of time, place, and curriculum.
Reason (R) : It is designed to cater to the learning needs of a heterogeneous group of learners who may not have access to the formal education system.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

20. An extension curriculum plan that focuses on teaching farmers how to operate a new piece of farm machinery would primarily be addressing which domain of learning from Bloom's taxonomy?
(A) Affective domain
(B) Cognitive domain
(C) Sentimental domain
(D) Psychomotor domain

21. The concept of 'lifelong education' primarily emphasizes that:
(A) Learning is confined to childhood and formal schooling.
(B) Only vocational education is important throughout life.
(C) Learning is a continuous process from cradle to grave.
(D) Higher education degrees are the sole purpose of learning.

22. Which of the following is a major challenge in the implementation of adult education programmes?
(A) Lack of potential learners
(B) Difficulty in finding suitable timings and locations for learners
(C) High motivation and low dropout rates
(D) Overabundance of qualified instructors

23. Which of the following is NOT a method typically used in non-formal education?
(A) Study circles
(B) Practical demonstrations
(C) Community-based workshops
(D) Rigid, examination-oriented annual curriculum

24. "A systematic process of providing learning experiences to employees to improve their performance on the job" best defines:
(A) Training
(B) Recruitment
(C) Appraisal
(D) Compensation

25. The process of enhancing the skills, knowledge, and abilities of individuals and organizations is broadly termed as:
(A) Financial auditing
(B) Infrastructure development
(C) Capacity building
(D) Policy enforcement

26. Which of the following pairs is correctly matched in the context of extension programme management?
(A) Implementation - Putting the plan into action
(B) Evaluation - Deciding the course of action in advance

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279. (C) Designing nuanced and culturally appropriate interventions.
Effectively addressing the diverse concerns of development communication requires moving beyond generic messaging. The overarching requirement is to design nuanced and culturally appropriate interventions. These strategies must speak directly to the specific communities involved and tackle the unique structural barriers they face. By ensuring that communication is relevant and respectful of local contexts, practitioners can foster better engagement results.

280. (D) Environment and sustainability.
Communication campaigns focused on promoting conservation and raising awareness about the impacts of climate change fall under the concern of environment and sustainability. This area of development communication advocates for the urgent need for environmental protection and sustainable practices. Such interventions are vital for educating the public on how to mitigate environmental degradation and adapt to changing global conditions.

281. (A) Policymakers, leaders, and social structures.
Advocacy is a strategic approach in development communication that primarily targets policymakers, leaders, and social structures. Its main objective is to influence laws, policies, and the allocation of resources to create a more supportive environment for social change. By engaging with those in positions of power, advocacy aims to address the structural barriers that might otherwise hinder progress.

282. (B) Change individual and community knowledge, attitudes, and practices.
Behavior Change Communication focuses on influencing individuals and communities at the grassroots level. Its primary aim is to change knowledge, attitudes, and practices to encourage the adoption of beneficial behaviors. This approach often addresses personal health, safety, or environmental habits. By providing targeted information and motivation, BCC helps individuals make informed decisions that improve their well-being and social outcomes.

283. (B) Behavior Change Communication (BCC).
The Health Belief Model and the Stages of Change Model are prominent theoretical frameworks used in Behavior Change Communication. These models help practitioners understand an individual's readiness to take action and the psychological factors influencing their behavior. By applying these theories, communicators can tailor their messages and interventions to match the specific needs and motivations of their target audience effectively.

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284. (A) The existence of socio-cultural resistance and lack of political will.
Applying advocacy and Behavior Change Communication faces several significant challenges. Key among these are socio-cultural resistance to change and a potential lack of political will among leaders. Additionally, measuring the long-term impact of these interventions can be difficult. Overcoming these hurdles requires a deep understanding of local contexts and a sustained commitment to both structural and individual engagement strategies.

285. (C) Creating a synergy between advocacy's structural changes and BCC's individual focus.
The passage suggests that the most effective approach to social change involves creating a synergy between advocacy and Behavior Change Communication. Advocacy works to create an enabling environment through structural and policy changes, while BCC focuses on individual motivation and practice. When these two approaches are integrated, they reinforce each other, ensuring that individual efforts are supported by broader frameworks.

286. (D) Their cultural resonance and participatory nature.
Traditional media, such as folk songs, dance, and puppetry, possess deep roots in local culture. Their primary strength lies in their strong cultural resonance and ability to engage communities in a familiar and participatory manner. Because these forms are highly credible within their own contexts, they are effective tools for development communication. They allow for high community involvement.

287. (C) Empower local communities by giving them a voice.

35. The concept of 'people's participation' in development implies that people are:
(A) Passive recipients of external benefits from development projects
(B) Providing mandatory unpaid labor for large government infrastructure
(C) Active agents in program planning and evaluation processes
(D) Serving as consultants only during the final appraisal phase

36. "An approach and family of methodologies for collective inquiry and analysis, which empowers local people to share, enhance, and analyze their knowledge of life and conditions." This best defines:
(A) Top-down Planning
(B) Formal Survey Research
(C) Experimental Design
(D) Participatory Learning and Action (PLA)

37. Which of the following is a well-known method or technique used in Participatory Learning and Action (PLA)?
(A) Structured questionnaire survey
(B) Laboratory experiment
(C) Social mapping
(D) Double-blind study

38. Read the following assertion and reason and select the correct option.
Assertion (A) : Stakeholder perspectives are important in development because different groups have varied interests and concerns regarding a project.
Reason (R) : Ignoring the perspectives of key stakeholders can lead to project failure and lack of community ownership.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

39. The 'stakeholder perspective' in programme development suggests that:
(A) Only the funding agency's views should be considered.
(B) The target beneficiaries have no say in the programme design.
(C) The implementing agency has the sole authority to make all decisions.
(D) The programme should be planned by considering the interests and views of all parties involved or affected.

40. Which of these is NOT a typical technique used in Participatory Learning and Action (PLA)?
(A) Standardized Achievement Testing
(B) Transect Walk
(C) Venn Diagramming
(D) Seasonal Calendaring

41. A development programme in India focused on providing subsidized food grains to the poor would primarily address the area of:
(A) Infrastructure
(B) Sanitation
(C) Nutrition
(D) Skill development

42. Which of the following is an example of a self-employment programme in India?
(A) A programme offering loans and subsidies for setting up small businesses.
(B) A programme providing daily wage work in public construction projects.
(C) A programme providing free education in government schools.
(D) A programme focused on building toilets in rural areas.

43. The section of a scientific report that provides a detailed account of how the research was conducted is the:
(A) Introduction
(B) Results
(C) Discussion
(D) Methodology

44. In scientific report writing, the 'discussion' section is where the author should:
(A) Present the raw data without any explanation
(B) Interpret findings and relate them to existing research
(C) Simply repeat the results in paragraph form
(D) Provide a brief summary of the entire paper

45. The 'interpretation of data' in research involves:
(A) Only the collection of raw numbers and facts

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and collaboration among the different tiers of the institutional framework. When international, national, state, and local organizations work together, they can leverage their unique strengths and perspectives. Seamless cooperation ensures that policies are effectively translated into local actions and that grassroots feedback informs higher-level strategy planning.

296. (D) When the assumptions of normal distribution and homogeneity of variance are met.
Parametric tests like the t-test are used when specific statistical assumptions about the data are satisfied. These criteria include the data being drawn from a normally distributed population and having similar variances across the groups being compared. Additionally, the data should be measured on at least an interval scale. Meeting these requirements allows researchers to utilize full power for valid conclusions.

297. (A) Do not require strict assumptions about the population distribution.
Non-parametric tests are described as more robust because they do not rely on strict assumptions regarding the underlying population distribution. They are particularly useful when researchers encounter data that is not normally distributed or when sample sizes are small. Because they do not require parameters like homogeneity of variance, these tests can be applied to a wider variety of datasets.

298. (B) A non-parametric test, because the data is ranked (ordinal) and not normally distributed.
For data that is measured on an ordinal scale, such as community satisfaction rankings, and is not normally distributed, a non-parametric test is the most suitable choice. These tests are specifically designed to handle ranked data without requiring the strict assumptions of normality. Using a non-parametric approach ensures that the analysis is appropriate for the nature of the data collected.

299. (B) Parametric tests are generally more powerful but have stricter requirements.
A fundamental difference between these two categories of statistical tests lies in their power and requirements. Parametric tests are generally more powerful, meaning they have a better chance of detecting an effect if one exists, but they require the data to meet strict criteria. Non-parametric tests are less powerful but are more flexible, as they can be used more broadly.

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300. (A) Non-parametric tests.
The Chi-square test, Mann-Whitney U test, and Kruskal-Wallis test are all categorized as non-parametric tests. These tools are indispensable for researchers analyzing data that does not meet the requirements of parametric statistics. By using these tests, communication scholars can rigorously analyze ordinal data or data from non-normal populations. They provide a robust alternative for evaluating findings in diverse real-world contexts.

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List I: (PLA Technique)
P. Social Map
Q. Transect Walk
R. Seasonal Calendar
S. Venn Diagram
List II: (Purpose)
1. To understand changes in activities, problems, and resources over a year
2. To show the location of households, resources, and social infrastructure
3. To identify and analyze different cross-sections of the local environment
4. To understand the importance and relationships of different institutions
(A) P-1, Q-4, R-2, S-3
(B) P-2, Q-3, R-1, S-4
(C) P-3, Q-1, R-4, S-2
(D) P-4, Q-2, R-3, S-1

56. Read the following assertion and reason and select the correct option.
Assertion (A) : People's participation is crucial for the sustainability of development programmes.
Reason (R) : When people are involved in a project, they develop a sense of ownership, making them more likely to maintain the project's outcomes and assets.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

57. A development programme aimed at ensuring every rural household has access to a functional toilet primarily falls under the category of:
(A) Wage employment
(B) Education
(C) Sanitation
(D) Nutrition

58. In a research report, which section typically contains tables, graphs, and charts to summarize the collected data?
(A) Results
(B) Abstract
(C) Introduction
(D) References

59. Which of the following is NOT a characteristic of a well-written research report?
(A) Objectivity
(B) Clarity
(C) Accuracy
(D) Plagiarism

60. Arrange the following levels of Bloom's cognitive domain in the correct order from lowest to highest complexity.
1. Analysis
2. Knowledge
3. Application
4. Comprehension
5. Synthesis
(A) 2, 4, 3, 1, 5
(B) 1, 2, 3, 4, 5
(C) 2, 3, 4, 1, 5
(D) 5, 4, 3, 2, 1

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61. An extension philosophy that emphasizes "starting where the people are" is an application of the principle of:
(A) Authoritarianism
(B) Cultural stagnation
(C) Felt needs and interests
(D) Imposed targets

62. In the context of programme management, 'evaluation' differs from 'monitoring' in that evaluation is:
(A) A routine and continuous check on daily field extension activities
(B) A periodic assessment focused on terminal outcomes and impact
(C) A specialized review concerned exclusively with financial spending
(D) A preliminary study conducted specifically before any activities commence

63. Which of the following audio-visual aids is classified as a non-projected visual aid?
(A) PowerPoint slide
(B) Film strip
(C) Overhead transparency
(D) Poster

64. The process of pre-testing an audio-visual aid with a sample of the intended audience is crucial for:
(A) Ensuring its effectiveness and clarity

be the most effective way to present this data in a report?
(A) A frequency distribution table or a histogram.
(B) A long paragraph listing each of the 500 incomes.
(C) A single sentence stating the average income.
(D) A detailed biography of one of the households.

143. The "felt needs" of the people are a central tenet of extension philosophy. This means that extension programmes should be based on:
(A) Theoretical assumptions formulated by external project experts
(B) The current political agenda of the dominant ruling party
(C) The strategic availability of surplus national government funds
(D) The problems and needs identified by the people themselves

144. In programme management, what is the logical next step after 'Planning'?
(A) Need Assessment
(B) Implementation
(C) Evaluation
(D) Situation Analysis

145. A 'result demonstration' is a powerful extension method because it:
(A) Allows one-way communication to a large audience.
(B) Is very inexpensive and requires no prior planning.
(C) Shows the proven advantages of a new practice in the local setting.
(D) Is a purely theoretical exercise.

146. A learning objective written as "The trainee will be able to operate the tractor safely" primarily belongs to which learning domain?
(A) Affective
(B) Cognitive
(C) Appreciative
(D) Psychomotor

147. What is a significant issue to be addressed in the evaluation of non-formal education programmes?
(A) The over-emphasis on standardized academic test scores
(B) The need to assess practical skills and life improvements
(C) The relative ease of measuring all long-term project impacts
(D) The homogeneity of learners which makes comparisons simple

148. A programme that aims to enhance the capabilities of elected women representatives in Panchayati Raj Institutions is an example of:
(A) Capacity building for human resource development
(B) A wage employment scheme
(C) An infrastructure project
(D) A nutrition programme

149. Which of the following is NOT a function of leadership in community development?
(A) Initiating action
(B) Motivating members
(C) Representing the group
(D) Promoting internal conflicts

150. Consider the following statements about Participatory Learning and Action (PLA):
(a) It views local people as partners in research and development.
(b) It uses a fixed blueprint and is not adaptable.
(c) It often employs visual and group-based methods.
(d) The process is more important than the immediate output.
(e) It is a top-down, extractive methodology.
Which of the above statements are correct?
(A) (a), (c) and (d) only
(B) (b), (c) and (e) only
(C) (a), (b) and (d) only
(D) (c), (d) and (e) only

151. Programmes like 'Stand-Up India' and 'Mudra Yojana' are primarily designed to promote:
(A) Health and sanitation
(B) Entrepreneurship and self-employment
(C) Primary education
(D) Rural infrastructure

152. The 'discussion' section of a scientific report should connect the study's findings to:
(A) The personal life of the researcher.

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75. Which of the following is NOT a theory or approach related to adult education?
(A) Andragogy
(B) Pedagogy
(C) Self-directed learning
(D) Formal examination-centric approach

76. "Capacity building for human resource development" aims to:
(A) Reduce the number of employees in an organization.
(B) Strengthen the abilities of individuals and institutions to perform their functions effectively.
(C) Focus solely on providing physical infrastructure.
(D) Limit opportunities for professional growth.

77. Read the following assertion and reason and select the correct option.
Assertion (A) : NGOs can often be more flexible and innovative in their approach to community development than government agencies.
Reason (R) : NGOs are not bound by rigid bureaucratic procedures and can adapt quickly to local needs and changing circumstances.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

78. The primary purpose of using Venn diagrams (Chapati diagrams) in a PLA exercise is to:
(A) Map the physical layout of the village.
(B) Analyze the seasonal variation of income and expenditure.
(C) Rank households according to their wealth status.
(D) Understand the community's perception of the importance and accessibility of different institutions.

79. India's National Health Mission (NHM) is a comprehensive programme primarily targeting improvements in:
(A) Health indicators for urban, rural, and tribal populations.
(B) Rural road connectivity.
(C) Higher education enrollment.
(D) Agricultural exports.

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80. In scientific writing, the "Introduction" section should primarily:
(A) Provide a detailed account of analysis techniques
(B) Set context, state the problem, and outline objectives
(C) Present the main findings and results of the study
(D) Discuss the implications and limitations of research

81. Which of the following is the most comprehensive definition of "extension"?
(A) A regulatory process for enforcing agricultural laws.
(B) A financial service for providing loans to rural communities.
(C) An educational process for bringing about desired behavioral changes in people.
(D) A commercial activity for selling farm inputs.

82. The 'organisation' step in programme management primarily involves:
(A) Assessing the needs of the community.
(B) Arranging and structuring resources (human, financial, material) to execute the plan.
(C) Making a final judgment about the programme's success.
(D) Writing the final report.

83. Match the aids in List I with the classifications in List II.
List I: (Aid)
P. Flash Card
Q. PowerPoint Presentation
R. Radio Broadcast
S. Model
List II: (Classification)
1. Projected Audio-Visual Aid
2. Audio Aid
3. Three-Dimensional Aid
4. Non-Projected Visual Aid
(A) P-4, Q-1, R-2, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-3, R-4, S-1
(D) P-3, Q-4, R-1, S-2

84. In the context of curriculum planning, 'learning objectives' should be:
(A) Vague and general
(B) Specific, measurable, and achievable
(C) Focused only on the teacher's activities
(D) Kept confidential from the learners

85. Consider the following statements about lifelong education:
(a) It encompasses formal, non-formal, and informal learning.
(b) It is relevant only for professionals in high-tech industries.
(c) It promotes the idea that learning ends after formal schooling.
(d) It is essential for adapting to social, economic, and technological changes.
(e) It is solely the responsibility of the government to provide.
Which of the above statements are correct?
(A) (a) and (d) only
(B) (b), (c) and (e) only
(C) (a), (c) and (d) only
(D) (c) and (e) only

86. Which training method would be most effective for teaching a person how to perform a specific manual task like assembling a product?
(A) Lecture
(B) Case Study
(C) On-the-job training
(D) Group Discussion

87. Which of the following best describes the role of a leader in community organization?
(A) To make all decisions unilaterally.
(B) To facilitate, guide, and motivate community members towards a common goal.
(C) To act as a government informant.
(D) To distribute benefits unequally among friends and family.

88. 'Stakeholders' in a community development project include:
(A) Only the people who receive direct benefits.
(B) Only the officials of the implementing agency.
(C) Only the donors funding the project.
(D) Anyone who is affected by, or can affect, the project's outcome.

89. A government programme that provides financial assistance for the construction of houses for the homeless in urban areas is an example of a programme for:
(A) Self-employment
(B) Nutrition support
(C) Infrastructure development
(D) Health services

90. The process of critically reviewing and rewriting a draft research report to improve its clarity, flow, and accuracy is called:
(A) Data collection
(B) Editing and revision
(C) Hypothesis formulation
(D) Brainstorming

91. Arrange the following historical developments related to extension in India in chronological order.
1. Community Development Programme (CDP)
2. Training and Visit (T&V) System
3. Grow More Food Campaign
4. Krishi Vigyan Kendra (KVK) establishment
(A) 3, 1, 4, 2
(B) 1, 3, 2, 4
(C) 4, 2, 1, 3
(D) 2, 4, 3, 1

92. An extension worker notices that despite a successful harvest, farmers in a village are unable to get good prices. The worker identifies a lack of storage facilities and poor market linkages. This process is an example of:
(A) Implementation
(B) Situation Analysis
(C) Programme Termination
(D) Financial Audit

93. A puppet show used to convey a message on sanitation in a village fair is an example of:
(A) A traditional media used as an extension method.
(B) A highly technical projected aid.
(C) A method suitable only for urban elites.
(D) An interpersonal communication method.

94. An objective stated as, "The participant will be able to list the five key steps of integrated pest

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management," belongs to which level of Bloom's cognitive domain?
(A) Knowledge
(B) Synthesis
(C) Evaluation
(D) Application

95. One of the main challenges in implementing non-formal education programs for marginalized communities is:
(A) An oversupply of relevant learning materials.
(B) Learners being too young for the content.
(C) Overcoming social and cultural barriers.
(D) The curriculum being too flexible.

96. "Entrepreneurship development" is a critical component of programmes aimed at fostering:
(A) Wage employment
(B) Self-employment and job creation
(C) Government service
(D) Agricultural regulation

97. The concept of 'community organization' is founded on the principle that:
(A) Communities are incapable of solving their own problems.
(B) External experts should impose solutions on communities.
(C) People can work together to identify and solve their common problems.
(D) Financial aid is the only solution to community problems.

98. Read the following statements and select the correct option.
Statement I : In PLA, the role of the external facilitator is to extract information for their own research purposes.
Statement II : In PLA, the role of the external facilitator is to enable and empower local people to conduct their own analysis.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is false but Statement II is true.
(D) Statement I is true but Statement II is false.

99. The "Pradhan Mantri Kaushal Vikas Yojana" (PMKVY) in India is a flagship scheme for:
(A) Providing housing for the poor.
(B) Ensuring food security.
(C) Skill development for the youth.
(D) Building rural roads.

100. Read the following assertion and reason and select the correct option.
Assertion (A) : Interpretation of data goes beyond the mere presentation of results.
Reason (R) : Interpretation involves explaining the meaning and significance of the findings in the context of the research question and existing knowledge.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

101. The 'principle of satisfaction' in extension suggests that:
(A) The extension worker must be satisfied with the programme, regardless of the community's opinion.
(B) The government must be satisfied with the tax revenue generated from the programme.
(C) Learners are more likely to participate if they derive tangible benefits and a sense of accomplishment.
(D) The programme should be easy and require no effort from the participants.

102. An incorrect pairing of a programme management step and its function is:
(A) Need Assessment - Identifying the problem
(B) Planning - Deciding the future course of action
(C) Implementation - Assessing the final worth of the programme
(D) Monitoring - Keeping track of activities

103. Which of the following is a primary consideration when selecting an extension method?
(A) The personal preference of the extension agent above all else.
(B) The availability of the most expensive technology.
(C) The objective of the communication and the characteristics of the audience.
(D) The method that requires the least amount of preparation.

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(B) Determining its production cost
(C) Fulfilling a bureaucratic requirement
(D) Increasing its length and complexity

65. Consider the following elements related to adult education:
(a) Focus on immediate applicability and problem-solving.
(b) Curriculum is highly standardized and abstract.
(c) Learners bring a rich reservoir of life experience.
(d) Motivation to learn is often internal and job-related.
Which of the above are typical characteristics of adult learners and education?
(A) (a), (c) and (d) only
(B) (b) and (d) only
(C) (a) and (b) only
(D) (b), (c) and (d) only

66. A training programme is designed for newly recruited extension officers to familiarize them with the organization's policies, procedures, and culture. This type of training is called:
(A) Induction or orientation training
(B) Refresher training
(C) Promotional training
(D) Pre-service training

67. A 'participatory approach' to community development contrasts most sharply with which of the following?
(A) A needs-based approach
(B) A sustainable approach
(C) A top-down, prescriptive approach
(D) An integrated approach

68. In PLA, when a group of villagers walks through their village observing, asking questions, and mapping different zones (e.g., residential, agricultural, forest), they are conducting a:
(A) Focus Group Discussion
(B) Wealth Ranking
(C) Time Line Analysis
(D) Transect Walk

69. The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is a prominent example of a programme focused on:
(A) Self-employment
(B) Skill development
(C) Wage employment
(D) Urban infrastructure

70. The final part of a scientific report, which lists all the sources cited within the text, is the:
(A) Appendix
(B) Bibliography or References
(C) Abstract
(D) Introduction

71. The principle of 'learning by doing' is a cornerstone of extension education. Which of the following methods best embodies this principle?
(A) Lecture
(B) Radio talk
(C) Reading a bulletin
(D) Result demonstration

72. Read the following statements and select the correct option.
Statement I : Situation analysis provides the baseline data against which programme progress and impact can be measured.
Statement II : A thorough situation analysis is an unnecessary step that delays programme implementation.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

73. A key advantage of using a projected aid like a PowerPoint presentation in a large group setting is its ability to:
(A) Function effectively without electricity.
(B) Be created spontaneously without any planning.
(C) Be viewed clearly by a large number of people simultaneously.
(D) Encourage one-on-one interaction.

74. When a learner is able to break down information into its constituent parts to explore relationships, they are operating at which level of Bloom's cognitive taxonomy?
(A) Analysis
(B) Knowledge
(C) Comprehension
(D) Application

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(B) Judging the final outcome
(C) Identifying the needs of the people
(D) Turning plans into action

115. The main disadvantage of interpersonal methods like farm and home visits is that they are:
(A) Time-consuming and have limited coverage.
(B) Not effective in bringing about change.
(C) Not suitable for complex problems.
(D) Unable to provide feedback.

116. Match the domains in List I with the focuses in List II concerning Bloom's Taxonomy.
List I: (Domain)
P. Cognitive
Q. Affective
R. Psychomotor
S. Evaluation Level (Cognitive)
List II: (Focus)
1. Manual or physical skills
2. Judging the value of material
3. Feelings, values, or attitudes
4. Intellectual abilities and knowledge
(A) P-1, Q-2, R-3, S-4
(B) P-4, Q-3, R-1, S-2
(C) P-2, Q-1, R-4, S-3
(D) P-3, Q-4, R-2, S-1

117. An issue to be addressed in adult education programmes is the high rate of dropouts. A major reason for this is:
(A) The content is too relevant to their daily lives.
(B) The timings and location are highly convenient.
(C) Perceived lack of immediate benefits and work conflicts
(D) The teachers are too empathetic and understanding.

118. Which of the following is NOT a method of training?
(A) Recruitment
(B) Role Playing
(C) Simulation
(D) Case Study

119. Read the following assertion and reason and select the correct option.
Assertion (A) : Panchayati Raj Institutions (PRIs) are considered a key support structure for community development in India.
Reason (R) : As bodies of local self-government, PRIs are mandated to plan and implement schemes for economic development and social justice at the local level.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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120. A key difference between conventional survey research and PLA is that in PLA:
(A) Information flows from the community to the researcher who then analyzes it alone.
(B) Only quantitative data is considered valid.
(C) The process is rigid and cannot be adapted.
(D) Information is generated and analyzed by the community members themselves, with facilitation.

121. "Sarva Shiksha Abhiyan" (SSA) is a Government of India programme aimed at:
(A) The promotion of tourism.
(B) The development of national highways.
(C) The universalization of elementary education.
(D) Providing pensions to the elderly.

122. Which of the following correctly pairs a section of a research report with its content?
(A) Results - Statement of the research problem
(B) Abstract - A comprehensive summary of the entire report
(C) Methodology - Interpretation and discussion of findings
(D) Introduction - Raw data tables

123. Consider the following key features of extension education:
(a) It is a two-way channel of communication.
(b) It is based on the principle of learning by doing.
(c) It is primarily for the benefit of the people.
(d) It is a coercive system of regulation.
(e) It is flexible and adapted to local conditions.
Which of the above statements are correct?
(A) (a), (b), (c) and (d) only
(B) (b), (c), (d) and (e) only

104. Consider the following activities related to extension:
(a) Conducting a farm and home visit.
(b) Organizing a method demonstration for 15 farmers.
(c) Broadcasting a radio programme on new crop varieties.
(d) Holding a village-level meeting or campaign.
Which of these would be classified as small or large group methods?
(A) (a) and (c) only
(B) (b) and (d) only
(C) (a), (b), and (c) only
(D) (c) and (d) only

105. When a student is able to use a learned concept or principle in a new and concrete situation, they are demonstrating which level of learning in Bloom's taxonomy?
(A) Knowledge
(B) Comprehension
(C) Application
(D) Analysis

106. The term 'Andragogy', often contrasted with 'Pedagogy', refers to the theory and practice of:
(A) Child education
(B) Adult education
(C) Animal training
(D) Higher education policy

107. Which of the following is the LEAST likely objective of a skill development programme?
(A) To improve employability
(B) To promote entrepreneurship
(C) To enhance productivity
(D) To encourage dependency on welfare schemes

108. A local 'Mahila Mandal' (women's group) that works on issues like local sanitation and income generation for its members is an example of a:
(A) Community Based Organisation (CBO)
(B) Transnational Corporation
(C) Central Government Department
(D) Stock Exchange

109. Which of the following is a core principle of Participatory Learning and Action (PLA)?
(A) The knowledge of external experts is superior to local knowledge.
(B) The process should be rapid and extractive.
(C) Embracing error and learning from mistakes.
(D) The findings should be kept confidential from the community.

110. A programme providing supplementary food to pregnant women and young children through Anganwadi centres is a development programme for:
(A) Nutrition and Health
(B) Infrastructure
(C) Higher Education
(D) Industrial development

111. An extension agent needs to explain a complex multi-step process for soil testing to a group of semi-literate farmers. Which extension method would be most appropriate?
(A) Distributing technical bulletins with complex instructions
(B) Delivering formal lectures using advanced scientific terms
(C) Presenting a silent film regarding an unrelated subject
(D) Using a method demonstration with hands-on involvement

112. Read the following statements and select the correct option.
Statement I : The discussion section of a research report allows the researcher to speculate on the implications of their findings.
Statement II : The methodology section details the interpretation of the results.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

113. The philosophical root of extension that it should be an educational and not a coercive process is linked to the principle of:
(A) Autocratic leadership
(B) Top-down decision making
(C) Democracy and voluntary participation
(D) Strict regulation and enforcement

114. The 'implementation' phase of programme management is primarily concerned with:
(A) Analyzing the initial situation

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Statement II : Evaluation is a process of assessing the overall achievement of programme objectives and impact.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

135. Which of the following is an INCORRECT statement about audio-visual aids?
(A) They are a substitute for good teaching and preparation.
(B) They can cater to learners with different learning styles.
(C) They can help overcome language barriers.
(D) They can increase the retention of information.

136. The ability to create a new product or point of view by combining elements in a novel way (e.g., writing a unique report) represents which level of Bloom's cognitive taxonomy?
(A) Application
(B) Analysis
(C) Synthesis
(D) Comprehension

137. Which of the following is a key characteristic of non-formal education?
(A) Rigid curriculum and fixed timetable
(B) Focus on degrees and diplomas
(C) Relevance to the learner's life and immediate needs
(D) Compulsory attendance and age-specific entry

138. Consider the following statements about entrepreneurship development:
(a) It focuses on developing risk-taking abilities.
(b) It aims to create job seekers rather than job creators.
(c) It involves training in management and business skills.
(d) It is irrelevant for economic growth.
Which of the above statements are correct?
(A) (a) and (c) only
(B) (b) and (d) only
(C) (a), (b) and (c) only
(D) (c) and (d) only

139. Match the institutions in List I with the primary characteristics in List II concerning community development structures.
List I: (Institution)
P. NGO
Q. CBO
R. PRI
S. SHG
List II: (Primary Characteristic)
1. Constitutional body for local self-governance
2. Small voluntary group for saving and credit, often a type of CBO
3. Organisation of community members for a local cause
4. Voluntary organization, often with a broader scope than a single community
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-4, Q-3, R-1, S-2
(D) P-3, Q-4, R-2, S-1

140. Read the following assertion and reason and select the correct option.
Assertion (A) : The stakeholder perspective requires identifying all groups that could be positively or negatively impacted by a development programme.
Reason (R) : Programmes designed with broad stakeholder input are more likely to be equitable and sustainable.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

141. The National Food Security Act (NFSA), 2013, in India, aims to provide subsidized food grains, which directly relates to the development goal of:
(A) Women's development
(B) Nutrition security
(C) Infrastructure development
(D) Skill development

142. A researcher has collected data on the income levels of 500 households. To show the distribution of households across different income brackets (e.g., <5000, 5000-10000, >10000), which would

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(C) (a), (b), (c) and (e) only
(D) (a), (d) and (e) only

124. The final stage in the extension programme management cycle, which involves judging the value or worth of the programme against its objectives, is:
(A) Need assessment
(B) Situation analysis
(C) Implementation
(D) Evaluation

125. An extension agent is planning a session to create general awareness about a new government scheme among thousands of villagers spread across a large area. Which method would be most efficient for this purpose?
(A) Farm and home visits
(B) Method demonstration
(C) Radio broadcast or television spot
(D) A small focus group discussion

126. An objective that states "The learner will value the importance of soil conservation" falls into which domain of Bloom's taxonomy?
(A) Cognitive
(B) Affective
(C) Psychomotor
(D) Theoretical

127. A major challenge in implementing lifelong education is:
(A) Addressing the total lack of changes in modern technology
(B) Providing equitable access for all groups across the lifespan
(C) Overcoming the belief that learning is strictly for the young
(D) Mitigating the perceived decrease in need for new knowledge

128. What is the primary goal of capacity building for human resource development in a community development context?
(A) To make the community permanently dependent on external aid.
(B) To enhance the community's ability to manage its own affairs and development.
(C) To identify and remove local leaders.
(D) To focus exclusively on building physical infrastructure.

129. Arrange the following institutions in the typical hierarchy of Panchayati Raj in rural India, from the lowest to the highest level.
1. Zila Parishad
2. Gram Panchayat
3. Panchayat Samiti
(A) 1, 2, 3
(B) 2, 3, 1
(C) 3, 1, 2
(D) 2, 1, 3

130. The term 'triangulation' in the context of PLA and qualitative research refers to:
(A) Using a team of three researchers.
(B) Studying only three villages.
(C) Cross-checking information using multiple sources, methods, or investigators to improve validity.
(D) Presenting findings in the shape of a triangle.

131. The 'Swachh Bharat Mission' is a nationwide campaign in India focusing primarily on:
(A) Cleanliness and sanitation
(B) Education and literacy
(C) Financial inclusion
(D) Digital connectivity

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132. When presenting data in a report, the purpose of a graph or a chart is to:
(A) Make the final research report significantly longer
(B) Complicate simple sets of collected quantitative data
(C) Visually represent trends and relationships in the data
(D) Replace the need for any accompanying textual analysis

133. The genesis of the extension system in the USA is closely associated with the:
(A) Homestead Act of 1862
(B) Civil Rights Act of 1964
(C) Morrill Act of 1862
(D) Smith-Lever Act of 1914

134. Read the following statements and select the correct option.
Statement I : Monitoring is a process of checking if programme activities are being carried out as planned.

(B) The broader body of existing literature and theory.
(C) A completely unrelated field of study.
(D) Fictional narratives and stories.

153. The principle of 'cultural difference' is important in extension because:
(A) It ensures that all communities receive the same programme
(B) Ignoring local customs can lead to the rejection of new ideas
(C) It allows extension workers to use a single universal approach
(D) It assists in imposing a dominant culture on local communities

154. What is the fundamental purpose of 'situation analysis' in programme planning?
(A) To provide a factual basis for decision-making and setting realistic objectives.
(B) To implement the programme activities.
(C) To determine the final success of the programme.
(D) To write a history of the community.

155. Which of the following combinations of extension methods is most suitable for a multi-pronged campaign on water conservation, aiming for awareness, understanding, and adoption?
(A) A series of individual farm visits for one-on-one education
(B) A sequence of specialized radio talks for broad awareness
(C) Combined mass media, group discussion, and demonstrations
(D) A single technical seminar designed specifically for scientists

156. The ability to judge the merit of an idea, solution, or a piece of work based on criteria is the highest level of the cognitive domain, known as:
(A) Evaluation
(B) Application
(C) Analysis
(D) Synthesis

157. Read the following statements and select the correct option.
Statement I : Lifelong education is a concept that responds to the rapid pace of technological and social change in the modern world.
Statement II : The scope of lifelong education is limited only to vocational training for young adults.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

158. A training needs analysis (TNA) is conducted in an organization. Its primary purpose is to:
(A) Identify the performance gaps that can be addressed through training.
(B) Select new employees for the organization.
(C) Set the annual budget for the company.
(D) Design the company's marketing brochure.

159. The 'top-down' approach to community development is characterized by:
(A) Decisions being made at the grassroots level by community members.
(B) Planning and decision-making being done by higher authorities or external agencies.
(C) High levels of community participation and ownership.
(D) Flexibility and adaptability to local conditions.

160. Which PLA technique involves asking community members to represent the importance of and their access to various institutions (like schools, banks, health centers) using circles of different sizes and distances?
(A) Social Mapping
(B) Transect Walk
(C) Venn/Chapati Diagramming
(D) Seasonal Calendar

161. A programme focused on providing job-oriented vocational courses to urban youth is a type of:
(A) Women's development programme
(B) Nutrition programme
(C) Skill development programme
(D) Sanitation programme

162. In a scientific report, what is the main purpose of the 'abstract'?
(A) To provide an overview of study purpose, methods, and results
(B) To provide a detailed critique of multiple other research papers

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203. Which principle of extension is being followed when an extension agent helps a community to identify and utilize local leaders for a new programme?
(A) Principle of coercion
(B) Principle of leadership
(C) Principle of cultural irrelevance
(D) Principle of individual focus

204. "A systematic collection and analysis of information to make a judgment about the value or worth of a programme" is the definition of:
(A) Planning
(B) Organisation
(C) Implementation
(D) Evaluation

205. Which of the following is NOT a benefit of using audio-visual aids in extension?
(A) Increases retention
(B) Saves time
(C) Creates interest
(D) Guarantees behavioral change

206. A curriculum planner for an adult literacy programme decides to use stories and materials related to farming, local markets, and health, as these are highly relevant to the learners' lives. This decision reflects an understanding of the principles of:
(A) Abstract learning
(B) Non-formal and adult education
(C) Formal schooling
(D) Rote memorization

207. Which statement accurately describes a challenge in implementing lifelong education?
(A) People lose the ability to learn after the age of 25.
(B) There is a need for flexible delivery systems and recognition of prior learning.
(C) The world is static, so there is no need for continuous learning.
(D) Lifelong learning is only for the wealthy.

208. Consider the following training methods:
(a) Role Play
(b) Case Study
(c) Lecture
(d) On-the-job Coaching
Which of these are considered 'off-the-job' training methods?
(A) (d) only
(B) (a), (b), and (c)
(C) (a) and (d)
(D) (c) and (d)

209. The primary role of Community Based Organisations (CBOs) is to:
(A) Implement national foreign policy.
(B) Regulate the stock market.
(C) Address the collective needs and issues of their own community.
(D) Function as for-profit businesses.

210. Arrange the following PLA tools in the correct order as they might be used in a village immersion exercise.
1. Transect walk to get an overview.
2. Social mapping to understand the social structure.
3. Venn diagramming to understand institutional relationships.
4. Problem ranking to prioritize issues for action.
(A) 4, 3, 2, 1
(B) 1, 2, 3, 4
(C) 2, 4, 1, 3
(D) 3, 1, 4, 2

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211. The Pradhan Mantri Gram Sadak Yojana (PMGSY) is a nationwide programme in India to provide:
(A) Good all-weather road connectivity to unconnected villages.
(B) Mid-day meals in schools.
(C) Financial aid to urban unemployed youth.
(D) Health insurance for all citizens.

212. Read the following statements and select the correct option.
Statement I : The 'Results' section of a scientific report should contain the researcher's interpretation and opinions about the data.
Statement II : The 'Results' section should present the findings of the study in a direct and objective manner, often using tables and figures.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is false but Statement II is true.
(D) Statement I is true but Statement II is false.

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(D) A is false but R is true.

173. The core idea of "extension education" is to bring about a change in human behavior. Consider the following behavioral changes:
(a) Change in Knowledge (what people know)
(b) Change in Skills (what people can do)
(c) Change in Attitude (what people think and feel)
(d) Change in Action (what people actually do)
Which of the above are aimed at in extension education?
(A) (a) and (b) only
(B) (c) and (d) only
(C) (a), (b) and (c) only
(D) All of the above

174. A programme manager finds that after six months, only 20% of the planned training sessions have been conducted due to a lack of trainers. This discovery is a direct result of which management function?
(A) Initial Planning
(B) Final Evaluation
(C) Monitoring
(D) Situation Analysis

175. The field testing of a visual aid, such as a set of flashcards, is done to check for all of the following EXCEPT:
(A) The total production cost of the aid.
(B) Clarity and understandability of the message and visuals.
(C) Relevance of the content to the audience.
(D) Any unintended negative or confusing interpretations.

176. Which of the following is NOT a level within the cognitive domain of Bloom's Taxonomy?
(A) Comprehension
(B) Valuing
(C) Analysis
(D) Synthesis

177. Match the educational concepts in List I with the key features in List II.
List I: (Concept)
P. Non-Formal Education
Q. Lifelong Education
R. Adult Education
S. Formal Education
List II: (Key Feature)
1. Age-graded, sequential, and institution-based system
2. Education for adults, often focusing on literacy or vocation
3. Learning as a continuous process from 'womb to tomb'
4. Flexible, learner-centered education outside the formal system
(A) P-1, Q-2, R-3, S-4
(B) P-4, Q-3, R-2, S-1
(C) P-2, Q-1, R-4, S-3
(D) P-3, Q-4, R-1, S-2

178. 'Simulation' as a training method involves:
(A) Listening to a one-way presentation.
(B) Learning the job by doing it in the actual work environment.
(C) Creating an artificial environment that approximates the real job conditions for practice.
(D) Analyzing a written description of a past business problem.

179. A key strength of NGOs in community development is their:
(A) Ability to enforce laws and regulations.
(B) Strong connection and trust at the grassroots level.
(C) Access to unlimited government funding.
(D) Mandate to generate profits for shareholders.

180. Which of the following statements about 'people's participation' is incorrect?
(A) It fosters a sense of ownership and responsibility.
(B) It ensures that development is aligned with people's needs.
(C) It is a time-consuming process that slows down decision-making.
(D) It means that development is done 'for' people, not 'with' them.

181. Development programmes for tribal populations in India often have a special focus on:
(A) High-rise urban housing projects.
(B) Protecting land rights and preserving cultural heritage.
(C) Development of international airports.
(D) Stock market investment training.

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(D) Social domain

245. The scope of lifelong education includes:
(A) Only formal schooling
(B) Only vocational training
(C) Only adult literacy
(D) Formal, non-formal, and informal learning throughout the lifespan

246. What is the ultimate goal of entrepreneurship development programmes?
(A) To increase the number of people seeking government jobs.
(B) To foster the creation of new enterprises and self-employment.
(C) To train people for specific roles within a large corporation.
(D) To provide temporary wage employment.

247. Read the following assertion and reason and select the correct option.
Assertion (A) : Community organization is a process that helps communities to become more self-reliant.
Reason (R) : Through this process, communities develop the skills and confidence to identify their own needs and mobilize resources to address them.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

248. The active involvement of stakeholders in a development project is important for all of the following reasons EXCEPT:
(A) It increases project sustainability.
(B) It ensures the project meets real needs.
(C) It complicates the project and guarantees its failure.
(D) It builds local capacity and ownership.

249. A government programme which gives financial support for setting up a small tailoring unit by a woman is an example of a programme for:
(A) Women's development and self-employment
(B) Wage employment
(C) Infrastructure development
(D) Health services

250. Which of the following is a key component of the 'discussion' section in a research report?
(A) Explaining find significance and theoretical implications
(B) Providing a verbatim repetition of the initial results
(C) Detailing the description of the data collection tools
(D) Cataloging all raw and unprocessed field data collected

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Direction : Please read the following source carefully.

The genesis of extension education can be traced to its application in agricultural development, but its philosophical underpinnings are deeply rooted in the concept of education for all. Unlike formal education, which is often rigid and institution-based, extension education operates on the principle of taking the university to the people. Historically, systems in India and other countries evolved from a top-down technology transfer model to a more participatory educational process. The core philosophy of extension is to "help people help themselves," fostering self-reliance rather than dependency. This is achieved through a set of guiding principles, including starting with the felt needs and interests of the people, encouraging grassroots participation in programme development, and respecting cultural values and local knowledge systems. The primary objectives are not merely to disseminate information but to bring about desirable changes in human behaviour—affecting knowledge, skills, and attitudes—that lead to improved livelihoods and quality of life. Extension service, therefore, is a two-way channel, facilitating the flow of problems from the community to research institutions and the flow of solutions back to the community, creating a continuous learning cycle. It is fundamentally a democratic and voluntary educational process aimed at planned change.

Based on the above source, attempt the following five questions.

251. According to the passage, what is the core philosophy underpinning extension education?
(A) Transferring advanced technology from labs to farms.
(B) Fostering self-reliance by enabling people to solve their own problems.

192. Which section of a scientific report provides a brief, one-paragraph summary of the entire study?
(A) Introduction
(B) Literature Review
(C) Abstract
(D) Conclusion

193. The historical genesis of extension in India includes several pre-independence experiments. Which of the following is one such famous experiment?
(A) The Gurgaon Project by F.L. Brayne
(B) The Manhattan Project
(C) The Silicon Valley Initiative
(D) The Green Revolution Programme

194. A 'logical framework analysis' (LFA) is a tool used primarily in which stage of programme management?
(A) Planning and design
(B) Random implementation
(C) Post-programme celebration
(D) Historical archiving

195. Consider the following statements regarding the use of audio-visual materials:
(a) They can make abstract ideas concrete.
(b) They can increase the speed of learning.
(c) They can substitute for the extension worker.
(d) They can stimulate interest and motivate learners.
(e) They should be complex and difficult to understand.
Which of the above statement(s) is/are correct?
(A) (a), (b) and (d) only
(B) (c), (d) and (e) only
(C) (a), (c) and (e) only
(D) (b), (c) and (d) only

196. The 'psychomotor' domain of Bloom's taxonomy is concerned with:
(A) The development of intellectual capabilities.
(B) The acquisition of physical and motor skills.
(C) The formation of attitudes and values.
(D) The appreciation of art and literature.

197. Which of the following is a key approach in non-formal education?
(A) A standardized, one-size-fits-all curriculum.
(B) Learning that is integrated with the daily life and work of the participants.
(C) A focus on theoretical knowledge with no practical application.
(D) A strict, teacher-centric and authoritarian environment.

198. The primary difference between 'training' and 'development' for human resources is that training is often _____, while development is more _____.
(A) long-term; short-term
(B) for a specific job; for overall career growth
(C) theoretical; practical
(D) optional; mandatory

199. The structure of Panchayati Raj Institutions was primarily established to:
(A) Centralize all power in the state capital.
(B) Promote decentralized planning and democratic participation in development.
(C) Manage foreign affairs and international trade.
(D) Regulate the banking sector.

200. The PLA technique where villagers draw a map of their village on the ground or on paper, showing important landmarks, resources, and social divisions, is called:
(A) Wealth Ranking
(B) Social Mapping
(C) Seasonal Calendar
(D) Time Line

201. The 'Integrated Child Development Services' (ICDS) scheme in India is a comprehensive programme targeting:
(A) Health, nutrition, and pre-school education for children under 6 and their mothers.
(B) The construction of national highways.
(C) The promotion of large-scale industries.
(D) The training of astronauts.

202. What is the role of 'interpretation' in the context of research methods?
(A) To present raw data in tables.
(B) To collect the data from the field.
(C) To explain the significance and implications of research findings
(D) To write the bibliography of the report.

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(C) To list all raw data collected during the field research phase
(D) To thank all supporting individuals and external institutions

163. The statement "extension is a non-formal education" implies that:
(A) It follows a rigid, classroom-based, age-specific structure.
(B) It takes place outside the formal school system and is adapted to the needs of the learners.
(C) It has no educational objectives.
(D) It is mandatory for all citizens.

164. In the programme management cycle, 'monitoring' serves as a tool for:
(A) Final impact assessment
(B) Corrective action during implementation
(C) Initial problem identification
(D) Historical documentation only

165. Arrange the following extension teaching methods in order of their likely audience size, from smallest to largest.
1. Mass meeting
2. Farm and home visit
3. Radio talk
4. Method demonstration

(A) 2, 4, 1, 3
(B) 3, 1, 4, 2
(C) 1, 2, 3, 4
(D) 4, 3, 2, 1

166. A curriculum for extension education must be dynamic and not static. This means:
(A) It should be changed every day without any reason.
(B) It should be reviewed and updated periodically to remain relevant to the changing needs of the community.
(C) It should be written in stone and never altered.
(D) It should be the same for every community across the country.

167. Which of these is a significant challenge for the implementation of adult education programmes in rural areas?
(A) High levels of pre-existing literacy.
(B) Lack of relevant content that connects to their livelihoods.
(C) Too much free time available to the learners.
(D) Excellent physical infrastructure in all villages.

168. Which of the following is an 'on-the-job' training method?
(A) Coaching
(B) Lecture
(C) Case study
(D) Vestibule training

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169. Which pair is incorrectly matched regarding community development structures?
(A) PRI - Local self-government
(B) NGO - Focus on profit maximization
(C) CBO - Formed by community members
(D) SHG - Savings and credit focus

170. The use of a 'seasonal calendar' in PLA helps to understand:
(A) The location of different houses in the village.
(B) The relationships between different institutions.
(C) The temporal patterns of things like rainfall, income, diseases, and workload throughout the year.
(D) The historical timeline of the community.

171. A programme aimed at the holistic development of adolescent girls, focusing on their health, nutrition, and life skills, is an example of a:
(A) Programme for women's development
(B) Programme for wage employment
(C) Programme for infrastructure
(D) Programme for tribal displacement

172. Read the following assertion and reason and select the correct option.
Assertion (A) : Clear and unambiguous presentation of data is a hallmark of a good scientific report.
Reason (R) : The primary goal of data presentation is to confuse the reader and obscure the findings.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.

213. "Teaching through showing" and "Learning by doing" are the twin principles of which extension method?
(A) Lecture
(B) Method Demonstration
(C) Radio Talk
(D) Exhibition

214. The lowest level of learning in the affective domain, according to Krathwohl's taxonomy, is:
(A) Receiving (Attending)
(B) Responding
(C) Valuing
(D) Characterization

215. Read the following assertion and reason and select the correct option.
Assertion (A) : Evaluation of non-formal education should focus on life skills and empowerment, not just on memorization of facts.
Reason (R) : The primary goal of non-formal education is to equip learners with practical abilities and confidence to improve their lives.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

216. A key difference between wage employment and self-employment is:
(A) The source of income (salary from an employer vs. profit from one's own business).
(B) The level of education required.
(C) The geographical location.
(D) The gender of the person.

217. In the context of community development, what is a 'support structure'?
(A) The physical foundation of a building.
(B) An institution or organization (like a PRI, NGO, or CBO) that helps a community achieve its development goals.
(C) A temporary scaffold used in construction.
(D) A legal document outlining community laws.

218. The 'A' in PLA stands for:
(A) Analysis
(B) Action
(C) Appraisal
(D) Association

219. A development programme focused on providing financial and social support to widows and destitute women falls under the category of:
(A) Infrastructure development
(B) Women's development and social security
(C) Skill development for youth
(D) Urban sanitation

220. The purpose of a 'literature review' in a research report is to:
(A) Present the final results of the researcher's current study
(B) Summarize existing research and identify specific study gaps
(C) Detail the methodology used for quantitative data collection
(D) List the names of all the participants involved in the study

221. Which one of the following is NOT an objective of extension education?
(A) To help people help themselves.
(B) To raise the standard of living of rural people.
(C) To create a dependency culture.
(D) To develop rural leadership.

222. Consider the following stages of the programme management process:
(a) Implementation
(b) Situation Analysis
(c) Evaluation
(d) Planning
Which of these stages are part of the cyclical process of extension programme development?
(A) (a) and (b) only
(B) (b), (c) and (d) only
(C) (a), (c) and (d) only
(D) All of the above

223. What is the most significant limitation of mass media methods like radio and television in extension?
(A) They cannot reach a large audience.
(B) They are generally very expensive per person contacted.
(C) They typically allow for little to no direct

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feedback from the audience.
(D) They are not useful for creating awareness.

224. A teacher wants her students to be able to create a unique plan for a community garden. This objective falls under which level of Bloom's cognitive taxonomy?
(A) Knowledge
(B) Comprehension
(C) Synthesis
(D) Application

225. A key 'issue to be addressed' in lifelong education is the:
(A) Need to stop learning after formal schooling.
(B) Validation and certification of learning acquired through non-formal and informal means.
(C) Abundance of learning opportunities for the elderly.
(D) Decreasing importance of skills in the job market.

226. 'Human Resource Development' (HRD) in an organizational context is primarily aimed at:
(A) Developing the capabilities of employees to meet organizational goals.
(B) The recruitment and selection process only.
(C) Managing the organization's financial assets.
(D) The maintenance of office buildings and equipment.

227. Match the approaches in List I with the characteristics in List II concerning different development approaches.
List I: (Approach)
P. Top-Down Approach
Q. Participatory Approach
R. Welfare Approach
S. Empowerment Approach
List II: (Characteristic)
1. Focuses on providing services and relief, often creating dependency.
2. Involves people as active partners in their own development.
3. Enhances people's capacity to make choices and transform those choices into desired actions.
4. Plans and decisions are made by external agencies or higher authorities.
(A) P-1, Q-3, R-2, S-4
(B) P-4, Q-2, R-1, S-3
(C) P-2, Q-4, R-3, S-1
(D) P-3, Q-1, R-4, S-2

228. Which one of the following is NOT a PLA method?
(A) Social map
(B) Seasonal calendar
(C) Controlled experiment
(D) Transect walk

229. A programme providing free bicycles to girl students to encourage them to attend secondary school is a programme focused on:
(A) Health
(B) Wage employment
(C) Education
(D) Sanitation

230. In scientific report writing, using the active voice (e.g., "We conducted the survey") is often preferred over the passive voice because it is:
(A) More complex and difficult to read.
(B) More direct, clear, and takes responsibility.
(C) Less personal and more objective.
(D) The traditional and only acceptable format.

231. The philosophy of extension education is democratic. This implies that:
(A) Programme decisions are imposed on the people.
(B) All people are respected, and their participation in decision-making is encouraged.
(C) Only the elite members of the community are consulted.
(D) The extension agent acts as an autocrat.

232. An M&E (Monitoring and Evaluation) plan is developed during which phase of programme management?
(A) After the programme has ended
(B) During the planning phase
(C) Only if the programme fails
(D) It is not a part of programme management

233. A 'flash card' is a:
(A) Projected audio aid
(B) Non-projected visual aid
(C) Three-dimensional model

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(D) Audio-visual recording

234. In the context of curriculum planning, what is the role of evaluation?
(A) To determine the extent to which the learning objectives have been achieved.
(B) To select the students for the course.
(C) To design the course content.
(D) To punish students who do not perform well.

235. Consider the following statements about non-formal education:
(a) It is highly structured and hierarchical.
(b) It is voluntary and learner-centered.
(c) The curriculum is flexible and problem-focused.
(d) It targets a homogeneous, age-specific group.
(e) It often takes place in community settings rather than formal schools.
Which of the above statements are correct?
(A) (a), (c) and (d) only
(B) (b), (c) and (e) only
(C) (a), (d) and (e) only
(D) (b), (d) and (e) only

236. A company wants to improve the negotiation skills of its sales team. Which training method would be most effective?
(A) A lecture on the theory of negotiation.
(B) A role-playing exercise where trainees practice negotiating a sale.
(C) An instructional video on how to assemble the company's product.
(D) On-the-job coaching for a data entry task.

237. The leadership style that encourages group participation in decision-making is known as:
(A) Autocratic
(B) Laissez-faire
(C) Democratic
(D) Bureaucratic

238. Read the following statements and select the correct option.
Statement I : The PLA approach is based on the premise that local people are creative and capable of undertaking their own investigations, analysis, and planning.
Statement II : The PLA approach considers local knowledge to be unscientific and irrelevant for development planning.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

239. The 'Jal Jeevan Mission' in India is a central government initiative focused on:
(A) Skill development
(B) Functional household tap water connections
(C) Women's entrepreneurship
(D) Urban housing

240. The 'methodology' section of a scientific report must be detailed enough to allow another researcher to:
(A) Replicate the study
(B) Critique the researcher's personal beliefs
(C) Understand the results without reading the rest of the paper
(D) Contact the research participants

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241. Which of the following is NOT a principle of extension education?
(A) Principle of felt needs
(B) Principle of cultural difference
(C) Principle of participation
(D) Principle of fixed curriculum

242. The process of identifying the target group for an extension programme is part of:
(A) Evaluation
(B) Planning and Situation Analysis
(C) Implementation
(D) Monitoring

243. A poster is an effective visual aid for:
(A) Conveying a complex, multi-step process.
(B) Presenting a large amount of detailed text.
(C) Communicating a single, simple idea or message at a glance.
(D) A small group discussion where feedback is essential.

244. When a learner demonstrates a new skill without assistance, this represents achievement in the:
(A) Cognitive domain
(B) Affective domain
(C) Psychomotor domain

182. A researcher wants to show the relationship between two continuous variables, such as rainfall and crop yield. The most appropriate graph for this purpose would be a:
(A) Scatter plot
(B) Pie chart
(C) Bar chart
(D) Flow chart

183. The principle of 'cooperation' in extension emphasizes that:
(A) Extension work is the sole responsibility of one individual.
(B) Extension workers should work in isolation from other development agencies.
(C) Collaboration and partnership among stakeholders are essential for success.
(D) Competition between farmers should be discouraged at all costs.

184. The distinction between 'monitoring' and 'evaluation' in programme management is primarily based on:
(A) Timing and purpose
(B) The personnel involved
(C) The budget allocated
(D) The location of the activity

185. A filmstrip is an example of a:
(A) Non-projected visual aid
(B) Projected visual aid
(C) Audio aid
(D) Three-dimensional aid

186. Consider the following statements about curriculum development for extension:
(a) It is a systematic process.
(b) It begins with an analysis of the needs of learners.
(c) It ends with the formulation of objectives and does not consider evaluation.
(d) It should be a rigid and unchangeable document.
Which of the above statements are correct?
(A) (c) and (d)
(B) (a) and (b)
(C) (b) and (d)
(D) (a) and (c)

187. The theory of 'andragogy' suggests that adult learners are typically:
(A) Passive recipients of information.
(B) Highly dependent on the instructor.
(C) Self-directed and problem-centered.
(D) Unmotivated and unwilling to learn.

188. Read the following assertion and reason and select the correct option.
Assertion (A) : Capacity building is essential for sustainable human resource development.
Reason (R) : It equips individuals and institutions with the competencies to adapt to challenges and manage their own development effectively over the long term.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

189. Which of the following best describes the relationship between NGOs and CBOs?
(A) They are the same thing.
(B) NGOs are always government-run, whereas CBOs are private.
(C) NGOs are often external agencies that may work to support or facilitate the formation of local CBOs.
(D) CBOs are large, international bodies, whereas NGOs are small and local.

190. Read the following statements and select the correct option.
Statement I : People's participation in development can lead to more equitable distribution of benefits.
Statement II : A top-down approach is the best way to ensure people's participation.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

191. A government programme that aims to provide clean drinking water to all rural households through pipelines is an example of a programme for:
(A) Self-employment
(B) Infrastructure
(C) Skill development
(D) Nutrition

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(C) Providing formal, institution-based education to rural communities.
(D) Enforcing government policies for planned community change.

252. The passage suggests that the evolution of extension systems has been a shift from:
(A) a unidirectional information transfer to a participatory educational process.
(B) a participatory process to a rigid, institutional model.
(C) a focus on cultural values to a focus on technology.
(D) a democratic approach to a top-down transfer model.

253. Which of the following is described as a fundamental principle of extension programme development in the text?
(A) Prioritizing the needs identified by external experts.
(B) Implementing programmes without considering local culture.
(C) Initiating activities based on the community's felt needs and interests.
(D) Focusing exclusively on disseminating information from research institutions.

254. The passage describes the extension service as a "two-way channel." What does this imply?
(A) It exclusively facilitates the flow of solutions from institutions to the community.
(B) It only allows for the flow of problems from the community to government agencies.
(C) It functions as a one-way path for disseminating institutional knowledge.
(D) It creates a communication link for problems to reach researchers and solutions to reach the community.

255. What is the primary aim of extension education concerning human behaviour?
(A) To enforce conformity with predetermined behavioural norms.
(B) To document existing behaviours without attempting to change them.
(C) To bring about desirable changes in knowledge, skills, and attitudes.
(D) To focus solely on changing attitudes while ignoring skills.

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Direction : Please read the following source carefully.

Effective extension programme management is a systematic and cyclical process designed to address community needs in a structured manner. The process begins with a foundational stage of need assessment and situation analysis. Need assessment involves identifying the gap between 'what is' and 'what ought to be,' focusing on the perceived and actual requirements of the target community. This is complemented by situation analysis, which provides a comprehensive understanding of the socio-economic, cultural, and environmental context in which the programme will operate. Based on this diagnostic phase, the planning stage commences, where clear objectives are formulated, and a detailed blueprint of activities, resource allocation, and timelines is developed. This plan then guides the organization and implementation phases, where resources are mobilized and activities are executed. However, management does not end with implementation. Continuous monitoring is essential to track progress, ensure activities are conducted as planned, and make real-time adjustments. Finally, evaluation is conducted to measure the outcomes and impact of the programme against its initial objectives. This final step is crucial not only for accountability but also for providing valuable lessons that feed back into the need assessment and planning of future programmes, thus completing the cycle.

Based on the above source, attempt the following five questions.

256. According to the passage, what is the primary purpose of the need assessment stage in programme management?
(A) To evaluate the final impact of the programme.
(B) To identify the gap between the current situation and a desired state.
(C) To allocate resources and create a timeline for activities.
(D) To execute the planned activities and mobilize resources.

257. How does situation analysis complement need assessment in the programme management cycle?
(A) By measuring the outcomes of the

driven by external agencies, while others are non-directive, emphasizing self-help and local initiative. The success of community development hinges on effective community organization, which involves structuring relationships and mobilizing resources to achieve shared goals. Central to this is the role of leadership. Effective leaders can emerge from within the community and are crucial for articulating vision, motivating residents, and facilitating collective decision-making. Beyond internal leadership, the process is bolstered by various support structures. Panchayati Raj Institutions (PRIs) in India represent a formal, decentralized governance structure designed to empower local communities in planning and implementation. Alongside these formal bodies, Non-Governmental Organisations (NGOs) and Community-Based Organisations (CBOs) play a vital role. NGOs often act as facilitators, catalysts, or advocates, bringing technical expertise and resources, while CBOs are grassroots organizations formed by community members themselves to address their specific needs. The synergy between local leadership, PRIs, NGOs, and CBOs creates a robust framework for sustainable community development.

Based on the above source, attempt the following five questions.

281. According to the passage, what is the fundamental principle of community development?
(A) Collective action by community members to solve shared problems.
(B) Implementation of plans designed solely by external agencies.
(C) Reliance on individual action rather than group efforts.
(D) A process driven exclusively by government directives.

282. The passage describes Panchayati Raj Institutions (PRIs) as a support structure that is:
(A) an informal, grassroots organization formed by community members.
(B) a formal, decentralized governance system for local empowerment.
(C) an external advocacy group with no formal power.
(D) an international non-governmental organization.

283. What is the role of leadership in community organization as highlighted in the text?
(A) To impose decisions on the community without consultation.
(B) To motivate residents and facilitate collective decision-making.
(C) To primarily seek resources from external government agencies.
(D) To act as a passive observer in community processes.

284. How does the passage distinguish between NGOs and CBOs?
(A) NGOs often act as external facilitators, while CBOs are grassroots organizations of community members.
(B) NGOs are formal government bodies, while CBOs are informal.
(C) CBOs bring technical expertise, while NGOs are formed to address specific local needs.
(D) There is no difference; the terms are used interchangeably in the text.

285. The passage mentions different approaches to community development. A "non-directive" approach would most likely emphasize:
(A) control and planning by external experts.
(B) strict adherence to a predetermined plan.
(C) self-help and local initiative.
(D) implementation driven by a central authority.

Direction : Please read the following source carefully.

The paradigm of development has increasingly shifted towards valuing people's participation as a fundamental component of success and sustainability. This move is a departure from top-down, expert-driven models, recognizing that local people are actors and not mere beneficiaries. From a stakeholders' perspective, participation ensures that diverse interests and knowledge are incorporated into the development process, leading to more relevant and equitable outcomes. One of the most prominent methodologies for operationalizing this principle is Participatory Learning and Action (PLA). PLA is a family of approaches and methods that emphasizes local knowledge and enables local people to conduct their own analysis, and to plan and act upon it. Unlike conventional extractive research, PLA is a

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263. What is the stated purpose of field-testing audio-visual materials before their widespread use?
(A) To evaluate the final impact of the entire extension programme.
(B) To classify the aids as either projected or non-projected.
(C) To ensure the materials are culturally suitable and comprehensible to the audience.
(D) To measure the cost-effectiveness of preparing the materials.

264. Based on the passage, which of the following is a key reason for using audio-visual aids in extension?
(A) To replace the need for interpersonal communication methods.
(B) To make the learning process more abstract and theoretical.
(C) To function as a substitute for systematic planning.
(D) To help overcome challenges posed by audience illiteracy.

265. The passage classifies extension methods based on which criterion?
(A) The number of people reached.
(B) The cost of implementation.
(C) The type of audio-visual aid used.
(D) The literacy level of the audience.

Direction : Please read the following source carefully.

The development of a curriculum for extension education is a deliberate and systematic process that goes beyond merely listing topics. It involves careful planning to create structured learning experiences that lead to specific, measurable outcomes. Central to this process is the formulation of clear educational objectives. A widely adopted framework for this is Bloom's taxonomy of educational objectives, which categorizes learning into three domains: Cognitive (knowledge, thinking), Affective (attitudes, feelings), and Psychomotor (physical skills). Within the Cognitive domain, Bloom proposed a hierarchy of learning levels, starting from basic recall of facts (Knowledge), moving to understanding (Comprehension), applying information (Application), breaking down information (Analysis), creating new ideas (Synthesis), and finally, making judgments (Evaluation). When planning for extension and development activities, this taxonomy provides a valuable guide for curriculum developers. It ensures that learning is not confined to simple information transfer but progresses towards higher-order thinking skills. By defining objectives at different levels of the taxonomy, an extension educator can design activities that challenge learners to not just remember information but also to analyze problems, apply solutions, and evaluate results, thereby fostering deeper and more meaningful learning.

Based on the above source, attempt the following five questions.

266. According to the passage, what is the primary function of Bloom's taxonomy in curriculum development for extension?
(A) To list the topics that must be covered in a programme.
(B) To provide a framework for categorizing and structuring educational objectives.
(C) To select the most cost-effective teaching materials.
(D) To evaluate the overall administrative efficiency of an extension agency.

267. The passage identifies three domains of learning in Bloom's taxonomy. Which of the following represents the domain related to attitudes and feelings?
(A) The Cognitive domain.
(B) The Affective domain.
(C) The Psychomotor domain.
(D) The Application domain.

268. Within the Cognitive domain as described in the text, which level represents the most basic level of learning?
(A) Knowledge (recall of facts).
(B) Analysis.
(C) Evaluation.
(D) Application.

269. The passage suggests that using Bloom's taxonomy helps ensure that extension learning activities:
(A) focus exclusively on the transfer of factual information.
(B) are primarily designed for learners with

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advanced academic backgrounds.
(C) progress from simple recall to higher-order thinking skills.
(D) are limited to the development of physical skills only.

270. An extension activity requires farmers to judge the effectiveness of two different pest control methods based on given criteria. According to the hierarchy described in the passage, this task operates at which level of the Cognitive domain?
(A) Comprehension.
(B) Application.
(C) Knowledge.
(D) Evaluation.

Direction : Please read the following source carefully.

Non-formal, adult, and lifelong education represent crucial paradigms that extend learning beyond the confines of traditional schooling. From a historical perspective, these forms of education emerged to address the learning needs of individuals whom the formal system could not reach or adequately serve. The core concept of non-formal education lies in its flexibility, learner-centric approach, and relevance to the immediate environment and life situations of the participants. Unlike the structured, chronological, and hierarchical nature of formal education, non-formal education is organized but operates outside the established school system. Various theories and approaches inform its practice, often emphasizing problem-solving, experiential learning, and democratic participation. The scope is vast, covering literacy programmes, vocational training, health education, and civic awareness. A wide array of methods and materials are used, tailored to the specific learner group and context. However, the implementation and evaluation of these programmes face significant challenges. These include securing consistent funding, training effective facilitators, maintaining learner motivation, and developing appropriate evaluation tools that can capture diverse learning outcomes beyond standardized tests. Addressing these issues is critical for harnessing the full potential of non-formal and lifelong learning for personal and community development.

Based on the above source, attempt the following five questions.

271. According to the passage, a defining characteristic of non-formal education is its:
(A) rigid, hierarchical, and chronological structure.
(B) operation exclusively within the established formal school system.
(C) flexibility and learner-centric approach.
(D) focus on theoretical knowledge irrelevant to life situations.

272. The passage suggests that non-formal and adult education historically emerged to:
(A) replace the formal education system entirely.
(B) serve the learning needs of those not adequately reached by schools.
(C) provide a more structured and standardized form of learning.
(D) focus exclusively on the educational needs of children.

273. Which of the following is mentioned in the text as a significant challenge in the implementation of non-formal education programmes?
(A) An overabundance of standardized tests for evaluation.
(B) A lack of relevance to the learners' immediate environment.
(C) The inflexibility of the curriculum and methods used.
(D) The difficulty in maintaining learner motivation.

274. Based on the passage, the methods and materials used in non-formal education are typically:
(A) tailored to the specific context and participants.
(B) uniform and standardized for all learner groups.
(C) borrowed directly from the formal university system.
(D) focused solely on academic and theoretical subjects.

275. What is a key distinction made in the passage between formal and non-formal education?
(A) Formal education is learner-centric, while non-formal education is teacher-centric.
(B) Formal education is flexible, while non-formal education is rigid and structured.
(C) Non-formal education operates outside

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the formal school system, while formal education operates within it.

(D) Non-formal education is theoretical, while formal education emphasizes problem-solving.

Direction : Please read the following source carefully.

Human resource development is a cornerstone of sustainable progress, with training and skill development serving as primary mechanisms for building capacity. Training is a planned process designed to impart specific knowledge, improve skills, and modify attitudes to enhance performance in a particular role or task. The methods of training are diverse and can be selected based on the learning objectives and the participants' profile. They range from on-the-job methods like coaching and mentoring to off-the-job methods such as lectures, simulations, and case studies. Capacity building extends beyond individual training to encompass the strengthening of an organization's or community's overall ability to perform its functions and achieve its objectives. A key component of modern skill development initiatives is entrepreneurship development. This specialized form of training aims not just to create wage-earners but to foster a new class of entrepreneurs who can create jobs and drive economic growth. Entrepreneurship development programmes typically focus on cultivating essential traits like innovation, risk-taking, and problem-solving, while also providing practical knowledge in business planning, financial management, and marketing. By investing in these interconnected areas, human resource development seeks to empower individuals and fortify the institutions and communities they belong to.

Based on the above source, attempt the following five questions.

276. What is the primary goal of training as described in the passage?

(A) To enhance performance by improving specific knowledge, skills, and attitudes.

(B) To provide general academic education.

(C) To exclusively focus on cultivating a risk-taking mindset.

(D) To replace on-the-job learning with off-the-job methods.

277. The passage distinguishes entrepreneurship development from other forms of skill development by highlighting its focus on:

(A) preparing individuals solely for wage-based employment.

(B) creating job seekers rather than job creators.

(C) providing knowledge only in marketing and finance.

(D) fostering individuals who can create jobs and drive economic growth.

278. According to the text, how does capacity building differ from individual training?

(A) Capacity building focuses only on off-the-job methods like lectures.

(B) Capacity building addresses the overall ability of an organization or community.

(C) Capacity building is a narrower concept than individual training.

(D) Capacity building is exclusively concerned with entrepreneurship development.

279. Which of the following would be an example of an off-the-job training method mentioned in the text?

(A) Coaching by a supervisor during daily work.

(B) Mentoring a new employee on the job.

(C) Attending a workshop with case studies and simulations.

(D) Learning a task by direct observation in the workplace.

280. The passage implies that an effective entrepreneurship development programme would include training in:

(A) avoiding risk and focusing on stable employment.

(B) general academic subjects without a focus on business.

(C) theoretical concepts of economics without practical application.

(D) cultivating traits like innovation and practical skills like business planning.

Direction : Please read the following source carefully.

Community development is a process where community members come together to take collective action and generate solutions to common problems. Different perspectives and approaches guide this process. Some approaches are directive,

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programme against its objectives.
(B) By implementing the activities outlined in the programme plan.
(C) By tracking the day-to-day progress of programme activities.
(D) By providing a contextual understanding of the community's environment.

258. Which of the following best describes the function of monitoring within the management process?
(A) The continuous tracking of activities to ensure they align with the plan.
(B) A final judgment on the overall success and impact of the programme.
(C) A diagnostic phase to understand the community's socio-economic context.
(D) The development of a blueprint with clear objectives and timelines.

259. The passage describes programme management as a "cyclical process." What does this imply?
(A) The process is rigid and follows a linear, unchangeable path.
(B) Each stage operates in isolation without influencing the others.
(C) The insights gained from evaluation inform the planning of future programmes.
(D) The process ends definitively once implementation is complete.

260. What is the key difference highlighted in the text between monitoring and evaluation?
(A) Monitoring is a continuous process-tracking activity, while evaluation measures final outcomes.
(B) Monitoring is about planning, while evaluation is about implementation.
(C) Monitoring identifies needs, while evaluation analyzes the situation.
(D) Monitoring is conducted by external agents, while evaluation is done internally.

Direction : Please read the following source carefully.

The selection and use of appropriate extension methods and materials are critical for effective communication and learning. These methods can be broadly classified based on the number of people they reach: interpersonal, small group, and large group methods. Interpersonal methods, like farm and home visits, involve one-on-one interaction, allowing for tailored advice and strong rapport but are time-consuming. Small group methods, such as demonstrations and group discussions, facilitate peer learning and active participation among a limited number of individuals. Large group methods, including exhibitions and campaigns, can disseminate information to a mass audience quickly but offer little scope for interaction or feedback. To enhance the efficacy of these methods, audio-visual aids are indispensable. Their importance lies in their ability to make learning concrete, overcome literacy barriers, and hold the audience's attention. The use of these aids requires systematic planning, which includes classifying them (e.g., projected aids like slides, non-projected aids like charts) based on the objective and audience. Before use, materials should be meticulously prepared and, crucially, field-tested with a sample of the target audience to ensure they are culturally appropriate and clearly understood. Finally, the evaluation of audio-visual materials is necessary to determine their effectiveness in achieving the desired educational outcomes.

Based on the above source, attempt the following five questions.

261. According to the passage, what is a primary limitation of interpersonal extension methods?
(A) They are ineffective for building rapport with the audience.
(B) They offer little scope for interaction or feedback.
(C) They are best suited for disseminating information to a mass audience.
(D) They are resource-intensive in terms of time.

262. The text suggests that the main advantage of small group methods is that they:
(A) allow for rapid dissemination of information to a large population.
(B) facilitate peer learning and active engagement.
(C) require no planning or preparation of materials.
(D) involve one-on-one interaction with an extension agent.

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process of collective learning and empowerment. Its techniques are often visual and group-based to encourage the involvement of all community members, including those who are non-literate. Common PLA methods and techniques include social mapping, which helps visualize community resources and social structures; transect walks, which involve systematically walking through an area to observe and discuss different zones; and seasonal calendars, which help analyze temporal patterns related to factors like rainfall, income, and disease. The goal is not just to gather data, but to stimulate discussion, analysis, and collective action by the community itself.

Based on the above source, attempt the following five questions.

286. According to the passage, the shift towards people's participation in development signifies a move away from which model?
(A) A model where local people are considered active participants.
(B) A bottom-up, community-driven approach.
(C) A model that values local knowledge and interests.
(D) A top-down, expert-driven model.

287. What is the primary emphasis of Participatory Learning and Action (PLA) as described in the text?
(A) Data collection for use by external researchers only.
(B) The exclusive use of written surveys and questionnaires.
(C) Enabling local people to conduct their own analysis and planning.
(D) Implementing development plans designed by outside experts.

288. The passage suggests that a key advantage of using visual and group-based PLA techniques is to:
(A) limit participation to only the educated members of the community.
(B) encourage the involvement of non-literate community members.
(C) speed up the data collection process for external agencies.
(D) ensure the process is controlled by facilitators.

289. Which PLA technique mentioned in the passage is used for observing and discussing different zones by systematically walking through an area?
(A) Social mapping.
(B) Seasonal calendars.
(C) Stakeholder analysis.
(D) Transect walks.

290. From a stakeholders' perspective, what is a major benefit of participation as stated in the source?
(A) It leads to more relevant and equitable outcomes by incorporating diverse interests.
(B) It ensures that only the interests of the most powerful stakeholders are considered.
(C) It centralizes decision-making in the hands of a few experts.
(D) It makes the development process quicker and less complex.

Direction : Please read the following source carefully.

India has implemented a wide array of development programmes aimed at improving the quality of life for its diverse population groups, including urban, rural, and tribal communities. These programmes are multi-sectoral, addressing critical areas such as nutrition, health, education, employment, and infrastructure. For nutrition, initiatives are in place to combat malnutrition, particularly among children and women. In the health sector, programmes focus on improving access to primary healthcare, reducing mortality rates, and controlling diseases. Education programmes aim to increase literacy and ensure universal access to schooling. To address economic well-being, the government has pursued a dual strategy of promoting both wage and self-employment. Wage employment programmes are designed to provide a safety net by guaranteeing a certain number of days of work, especially in rural areas. Simultaneously, self-employment programmes are fostered to encourage entrepreneurship through financial assistance and skill development. Special emphasis is placed on women's development, with programmes designed to enhance their social, economic, and political empowerment. Furthermore, recent years have seen a significant push for programmes related to skill development,

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1. (B) Teaching people how to think, not what to think
Extension education focuses on empowering individuals by developing their critical thinking and decision-making capabilities rather than just providing readymade solutions. This educational process encourages people to analyze their own situations, identify problems, and seek effective solutions independently. By fostering a mindset of inquiry and self-reliance, it ensures sustainable development and long-term behavioral changes within the community, making them active participants in progress.

2. (A) To help individuals identify and resolve their own problems
The core objective of extension services is to facilitate self-help and local empowerment. It aims to provide the necessary knowledge and tools so that community members can recognize their unique challenges and develop practical solutions tailored to their specific needs. This approach shifts the focus from external dependency to internal capacity building, ensuring that individuals are equipped to sustain improvements in their livelihoods independently.

3. (C) It has its roots in pre-independence rural reconstruction experiments.
Extension education in India evolved significantly through various rural reconstruction projects initiated before independence. These early experiments, such as those in Sriniketan, Martandam, and Gurgaon, laid the foundation for organized rural development. They emphasized community participation and the integration of education with practical agricultural improvements. Understanding these historical roots is vital for recognizing how modern extension systems have adapted to local socio-economic contexts over several decades.

4. (C) Statement I is true but Statement II is false.
Extension programs must align with the felt needs of the community to ensure relevance and active participation from the people involved. However, the principle of cultural difference highlights that approaches must be tailored to specific local customs and social structures. A universal strategy is ineffective because diverse communities possess unique traditions and values. Therefore, while identifying local needs is essential, adapting methods to cultural contexts remains mandatory.

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5. (C) Need assessment
The initial phase of program development involves a systematic identification of the gap between the current situation and the desired outcome. This process, known as need assessment, helps extension workers understand the specific priorities and challenges faced by the target audience. By pinpointing these requirements, planners can design relevant interventions that address real-world problems. This foundational step ensures that resources are allocated efficiently to achieve meaningful impact.

6. (B) Situation analysis
Situation analysis involves a comprehensive study of the existing physical, social, and economic environment of a specific target area. This detailed examination provides the baseline data necessary for informed program planning and strategy formulation. By understanding the local context, including available resources and institutional frameworks, extension professionals can create realistic objectives. This thorough assessment ensures that the proposed development activities are feasible and aligned with local realities.

7. (C) A is true but R is false.
Extension education is inherently democratic, relying on voluntary participation and the freedom of individuals to choose their own path to improvement. Coercion is contrary to this philosophy because lasting behavioral change only occurs when people are convinced of the benefits of new practices. While the emphasis on democratic procedures is accurate, the idea that forced adoption leads to sustainable community progress is factually incorrect.

297. In which section of a scientific report would a researcher explain the meaning of the findings and compare them with previous studies?
(A) The interpretation and discussion section.
(B) The introduction.
(C) The methodology section.
(D) The results section.

298. The passage suggests that the use of tables and graphs is most relevant for which part of the research process?
(A) Stating the research problem.
(B) The presentation of data in the results section.
(C) Reviewing existing literature.
(D) Acknowledging the study's limitations.

299. What key activity is described as part of the interpretation and discussion phase, beyond simply stating results?
(A) Detailing the step-by-step procedure of data collection.
(B) Contextualizing findings and explaining their meaning.
(C) Presenting raw data without any summary.
(D) Formulating the initial research objectives.

300. Based on the passage, acknowledging a study's limitations is an important element of which section?
(A) The discussion and conclusion.
(B) The abstract.
(C) The review of literature.
(D) The presentation of results.

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to enhance employability, and for sanitation and infrastructure, recognizing their foundational role in public health and overall development.
Based on the above source, attempt the following five questions.

291. According to the passage, what is the dual strategy pursued by the Indian government to improve economic well-being?
(A) Focusing solely on urban development and ignoring rural areas.
(B) Prioritizing infrastructure development over health and education.
(C) Promoting both wage employment and self-employment opportunities.
(D) Emphasizing only women's development programmes.

292. The passage indicates that development programmes for women are specifically designed to:
(A) enhance their social, economic, and political empowerment.
(B) limit their participation in the workforce.
(C) focus exclusively on their nutritional needs.
(D) provide them only with wage-based employment.

293. Which sector is mentioned as foundational to public health and overall development in the passage?
(A) The entertainment and media sector.
(B) The foreign policy sector.
(C) The wage employment sector exclusively.
(D) The sanitation and infrastructure sector.

294. Based on the text, what is a primary objective of wage employment programmes in India?
(A) To encourage large-scale urban migration.
(B) To provide a safety net by guaranteeing work, especially in rural areas.
(C) To foster high-tech entrepreneurship in cities.
(D) To replace all self-employment initiatives.

295. The passage describes India's development programmes as "multi-sectoral." This implies that they:
(A) are implemented by a single government ministry.
(B) target only one specific population group, such as urban residents.
(C) address a wide range of areas like health, education, and employment.
(D) focus only on economic growth without social considerations.

Direction : Please read the following source carefully.

In the field of extension and community development, research methods provide a systematic way to generate and validate knowledge. A crucial final step in the research process is the dissemination of findings through a scientific report. The structure of a scientific report is standardized to ensure clarity, replicability, and credibility. It typically begins with an introduction that states the problem and objectives, followed by a review of literature, a detailed methodology section, a presentation of results, and finally, a discussion and conclusion. The presentation of data is a critical component of the results section. Data must be presented clearly and accurately, often using tables, graphs, and charts to summarize complex information and reveal patterns. The choice of presentation format depends on the type of data and the key message the researcher wishes to convey. Following the presentation of results is the interpretation and discussion section, which is arguably the most intellectually demanding part. Here, the researcher goes beyond merely stating the results. Interpretation involves explaining what the findings mean, while the discussion contextualizes these findings by comparing them with existing theories and the results of previous studies. This section should also acknowledge the study's limitations and suggest implications for policy, practice, and future research.
Based on the above source, attempt the following five questions.

296. According to the passage, what is the primary purpose of a standardized structure for a scientific report?
(A) To make the report longer and more detailed.
(B) To limit the audience to only highly specialized experts.
(C) To prioritize the discussion section over the methodology.
(D) To ensure clarity, replicability, and credibility of the research.

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8. (A) Principle of compulsion
Extension education operates on principles of voluntary participation, local leadership, and learner satisfaction. It encourages individuals to adopt new technologies based on their own convictions rather than through any form of force. The principle of compulsion is entirely absent from this educational framework because mandatory participation often leads to resistance and unsustainable outcomes. Successful extension work relies on motivating people through engagement, collaboration, and the demonstration of tangible benefits.

9. (C) A regular process of checking activities against set targets.
Monitoring is a continuous management function that tracks the progress of ongoing activities during the implementation phase of a program. It involves systematically collecting data to ensure that tasks are being completed according to the established schedule and budget. By comparing actual performance with planned targets, managers can identify deviations and implement corrective measures promptly. This process is essential for maintaining operational efficiency and ensuring accountability throughout.

10. (A) P-3, Q-4, R-1, S-2
The program management cycle consists of distinct, interrelated phases that ensure systematic development. Planning focuses on creating a blueprint for action, while implementation involves the actual execution of tasks in the field. Evaluation provides a comprehensive assessment of the program's overall impact and success. Finally, situation analysis is the foundational step of gathering baseline data. Correctly sequencing these activities is crucial for the effective delivery of extension services.

11. (D) An interpersonal method
Interpersonal methods in extension education involve direct, face-to-face communication between the extension agent and an individual or a small family group. Farm and home visits are classic examples of this approach, allowing for highly personalized interactions and immediate feedback. This method is effective for building trust, understanding specific household problems, and providing tailored advice. While intensive in terms of time, it remains highly successful for inducing specific behavioral changes.

12. (B) Small group method
Small group methods are designed to facilitate interaction among a limited number of participants, typically ranging from two to fifteen people. A method demonstration conducted for such a group allows learners to observe a process closely and practice skills under supervision. This setting encourages peer learning and provides an environment where individuals feel comfortable asking questions. It is more resource-efficient than individual visits while still maintaining high levels of engagement.

13. (C) (a), (b) and (c) only
Extension strategies utilize various methods depending on the target audience and communication goals. Interpersonal methods offer personalized feedback but are not suitable for reaching massive, scattered populations quickly due to their high time and labor requirements. Conversely, large group methods provide cost-effectiveness per person, and small group methods enhance peer-based learning. Effective extension planning involves choosing the right combination of these approaches to achieve maximum outreach and impact efficiently.

14. (D) Make the learning process more concrete and engaging
Audio-visual aids are essential tools that supplement the verbal communication of extension agents. By appealing to multiple senses, these materials help simplify complex concepts and make abstract ideas more tangible for the audience. This leads to increased interest, better understanding, and improved retention of information. Engaging visuals and clear audio can overcome literacy barriers, ensuring that the message is effectively communicated to diverse groups in a stimulating manner.

15. (A) The material should be complex and text-heavy to show expertise.
Effective audio-visual materials must prioritize clarity, simplicity, and relevance to the target audience to ensure successful communication. Overly complex or text-heavy designs often confuse learners and detract from the core message. Professionalism in extension is

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their own progress through self-help and collective action. It prioritizes the identification of needs and solutions by community members themselves rather than following directives from external authorities. This bottom-up strategy fosters a sense of ownership and ensures that interventions are culturally relevant and sustainable. By leveraging local resources and mutual support, grassroots initiatives empower communities to achieve long-term social change.

31. (A) Non-Governmental Organisation (NGO)
Non-Governmental Organisations are voluntary, non-profit entities that operate independently of government control to address various social, cultural, or environmental issues. They play a vital role in community development by reaching marginalized groups and implementing innovative solutions to local problems. NGOs often act as intermediaries between the government and the public, advocating for policy changes and providing essential services. Their flexibility and grassroots focus allow them to adapt quickly to the evolving needs of society.

32. (C) (a), (b) and (c) only
Community development is supported by various structures, including constitutional bodies like Panchayati Raj Institutions and voluntary groups like NGOs and CBOs. While PRIs provide local governance, NGOs and CBOs supplement these efforts by addressing specific local needs and reaching vulnerable populations. It is incorrect to state that all such structures are directly funded and controlled by the central government, as many operate independently or through diverse funding sources. This diversity ensures multiple avenues for progress.

33. (C) Statement I is true but Statement II is false.
Community organization is a vital process where members identify common goals and develop the collective will to address their shared challenges. This systematic approach builds social capital and empowers individuals to work towards community-wide improvement. However, the success of such efforts depends heavily on effective leadership to guide, motivate, and coordinate activities. Without strong leaders to facilitate the process and maintain momentum, community organization initiatives are likely to struggle or fail to achieve their objectives.

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34. (A) Formed and managed by members of the community itself
A Community Based Organisation is characterized by its local roots and membership-driven management. Unlike external agencies, CBOs are established by people within the community to address their own specific needs and priorities. This internal structure ensures that the organization remains highly responsive to local conditions and maintains strong accountability to its members. By leveraging local knowledge and resources, CBOs foster self-reliance and empower residents to take charge of their own developmental pathways.

35. (C) Active agents in program planning and evaluation processes
People's participation in development shifts the role of community members from passive recipients to active contributors. It implies that individuals are involved in all stages of a project, including situational analysis, decision-making, implementation, and evaluation. This inclusive approach ensures that development initiatives are aligned with the actual needs and values of the people. By empowering citizens as stakeholders, participation enhances the sustainability, effectiveness, and overall equity of development programs within society.

36. (D) Participatory Learning and Action (PLA)
Participatory Learning and Action represents a family of methodologies designed to empower local communities through collective inquiry and analysis. It focuses on enabling people to share and analyze their own knowledge of life conditions to plan future improvements. Unlike traditional extractive research, PLA prioritizes the role of community members as experts in their own lives. This approach fosters a sense of ownership and ensures that development strategies are grounded in local realities and priorities.

37. (C) Social mapping
Social mapping is a widely used PLA technique where community members create a visual representation of their village or neighborhood. This exercise identifies households, resources, social divisions, and key infrastructure from the perspective of the residents. It provides valuable insights into the social fabric and

23. (D) Rigid, examination-oriented annual curriculum
Non-formal education is characterized by its learner-centered and flexible approach, prioritizing practical skills over academic degrees. It utilizes methods like study circles, workshops, and demonstrations that encourage active participation and immediate application of knowledge. A rigid, examination-oriented curriculum is the hallmark of formal education and contradicts the fundamental principles of non-formal systems. By avoiding such constraints, non-formal programs can effectively address the specific, changing needs of diverse groups in various community settings.

24. (A) Training
Training is a systematic and organized process aimed at enhancing the specific skills and knowledge required for a particular job. It focuses on improving current performance by providing learners with structured experiences that translate directly into workplace efficiency. Unlike general education, training is task-oriented and seeks to bridge the gap between existing abilities and job requirements. Effective training programs are essential for professional development and the overall productivity of any organizational workforce.

25. (C) Capacity building
Capacity building refers to the comprehensive process of strengthening the skills, competencies, and resources of individuals and organizations. It goes beyond simple training by addressing institutional frameworks and personal development to enable sustainable progress. By enhancing the ability of people to manage their own affairs and adapt to new challenges, capacity building fosters long-term self-reliance. This approach is fundamental in community development for ensuring that improvements are maintained independently by local stakeholders.

26. (A) Implementation - Putting the plan into action
In the management of extension programs, each stage has a distinct and vital function. Implementation is the active phase where planned strategies and activities are executed in the field to achieve set objectives. Planning involve deciding the course of action beforehand, while monitoring tracks progress during implementation. Evaluation is the final assessment of the program's overall worth and impact. Correctly understanding these definitions is essential for effective organizational management and goal achievement.

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27. (D) Entrepreneurship development
Entrepreneurship development focuses on nurturing individuals to identify business opportunities, innovate, and take calculated risks for financial gain. This process involves building technical skills, management abilities, and the psychological readiness to handle the uncertainties of a business venture. By fostering a spirit of enterprise, this developmental approach contributes to economic growth and job creation within the community. It empowers people to become self-reliant and transform their ideas into profitable, sustainable commercial activities.

28. (B) To bridge the gap between required and existing job performance
The primary goal of human resource training is to enhance employee performance by addressing specific skill deficiencies. By identifying the difference between the competencies required for a role and the current abilities of the staff, organizations can design targeted interventions. This process ensures that workers are equipped with the latest knowledge and techniques to fulfill their duties efficiently. Ultimately, effective training leads to increased organizational productivity and a more adaptable, skilled workforce.

29. (B) P-3, Q-4, R-1, S-2
Different training methods are selected based on the specific learning objectives and the nature of the tasks involved. On-the-job training involves learning while performing actual duties, whereas lectures provide a structured way to deliver information to large audiences. Case studies encourage the analysis of complex problems, and role-playing allows participants to practice social interactions and perspective-taking. Using a diverse mix of these methods ensures a comprehensive and effective learning experience for trainees.

30. (D) A grassroots approach
A grassroots approach to community development emphasizes the power of local people to drive

reporting to explore the broader implications and theoretical contributions of the work. It allows the author to draw meaningful conclusions and suggest practical applications or areas for future scientific investigation.

45. (C) Making sense of the results and explaining what they mean
Interpretation of data represents a critical stage in research that moves beyond simply presenting numerical findings or observations. It involves a sophisticated analysis where the researcher evaluates the meaning of the results in relation to the original hypothesis and existing literature. This process clarifies the significance of the findings, helping to draw valid conclusions and provide contextual relevance to the research questions being investigated in the study.

46. (D) Presenting data in a clear, concise, and accurate manner
Effective data presentation is vital for communicating research findings accurately to the intended audience. It requires using appropriate tables, charts, and graphs that simplify complex information without distorting the truth. The presentation must be objective, highlighting key trends and significant results while remaining easy to interpret. Avoiding unnecessary complexity and ensuring factual accuracy helps the reader understand the core message of the research and enhances the overall credibility of the scientific report.

47. (C) Statement I is true but Statement II is false.
Many modern extension systems, including that of the United States, have their origins in the land-grant university model, which sought to bridge the gap between academic research and practical farming. The primary objective of these early efforts was to improve rural livelihoods and agricultural productivity through education and technology transfer. The suggestion that extension was solely a tool for population control is inaccurate, as its fundamental purpose was educational and aimed at socio-economic empowerment.

48. (B) Planning
Needs assessment serves as the critical diagnostic phase that informs the subsequent planning of an extension program. By identifying specific problems, such as low crop yields due to poor seed quality, planners can develop targeted objectives and activities to address these issues. This evidence-based approach ensures that the program is relevant and responsive to the actual challenges faced by the community. Without this input, planning would lack the direction needed to achieve meaningful and sustainable improvements.

49. (B) Large group and mass media methods
When an extension agent uses campaigns, posters, and public meetings to reach an entire district, they are employing large group and mass media methods. These approaches are designed for wide outreach, making them efficient for creating general awareness and disseminating information to a scattered population. While they offer less opportunity for personalized feedback compared to interpersonal methods, they are essential for large-scale communication. Such strategies are highly effective for initiating broad social movements or public health initiatives.

50. (B) (b), (c) and (d) only
Curriculum development for extension is a systematic and ongoing process that must remain responsive to the evolving needs of the learners. It should clearly define objectives, content, and evaluation methods, often utilizing frameworks like Bloom's taxonomy to ensure comprehensive learning. A fixed or rigid curriculum is unsuitable because local conditions and technologies change over time. Therefore, effective curriculum planning must be flexible, learner-centered, and subject to periodic review and revision to maintain its educational relevance.

51. (C) Non-Formal Education
Non-formal education is characterized by its flexibility and focus on the practical needs of the learner, operating outside the constraints of the traditional school system. It is learner-centered, allowing for a curriculum that is relevant to immediate life and work challenges. This educational approach often targets adults and out-of-school youth, providing them with functional skills and knowledge. By being adaptable in its delivery and content, non-formal education effectively reaches populations that are missed by formal schooling.

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perceived realities of the community that formal surveys might miss. By involving everyone in the mapping process, it facilitates discussion about local issues and helps in identifying priority areas for intervention.

38. (A) Both A and R are true and R is the correct explanation of A.
Development projects involve multiple stakeholders, each with unique interests, concerns, and potential contributions. Acknowledging these varied perspectives is essential for creating a comprehensive and inclusive project design. If key stakeholders are ignored, the project risks facing resistance or failing to address critical issues, leading to a lack of community ownership. Therefore, integrating stakeholder views is a strategic necessity to ensure project success, long-term sustainability, and the equitable distribution of benefits among participants.

39. (D) The programme should be planned by considering the interests and views of all parties involved or affected.
The stakeholder perspective emphasizes that effective program development requires the inclusion of everyone impacted by a project. This includes target beneficiaries, implementing agencies, funding bodies, and local authorities. By incorporating these diverse viewpoints, planners can identify potential conflicts and build a broader consensus for action. This collaborative approach leads to more holistic designs and increases the likelihood of long-term sustainability. It ensures that the program is viewed as legitimate and beneficial by all concerned parties.

40. (A) Standardized Achievement Testing
Participatory Learning and Action utilizes various visual and interactive tools such as transect walks, Venn diagramming, and seasonal calendaring to engage community members. These techniques are designed to be accessible and non-extractive, focusing on local knowledge and analysis. Standardized achievement testing, however, is a formal academic tool used to measure individual performance in institutional settings. It does not align with the participatory, community-driven, and qualitative nature of PLA methodologies used in development contexts.

41. (C) Nutrition
Programs that provide subsidized food grains are specifically designed to improve the food security and nutritional status of vulnerable populations. By ensuring access to essential staples at affordable prices, these initiatives help combat malnutrition and related health issues. This focus on basic dietary needs is a critical component of social welfare in India, targeting the physical well-being of the poor. Such interventions directly address the immediate requirements for maintaining a healthy and productive life within marginalized communities.

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42. (A) A programme offering loans and subsidies for setting up small businesses.
Self-employment programs aim to empower individuals to create their own livelihoods by starting small-scale business ventures. These initiatives typically provide financial support through loans and subsidies, along with necessary technical training and market linkages. Unlike wage employment programs that offer daily work for a salary, self-employment focuses on fostering entrepreneurship and long-term economic independence. This approach helps reduce unemployment and encourages local economic growth by transforming job seekers into self-reliant job creators.

43. (D) Methodology
The methodology section of a scientific report provides a transparent and detailed account of the research process. It describes the design, participants, tools, and procedures used to collect and analyze data. This clarity is essential for allowing other researchers to evaluate the validity of the study and replicate the experiment if necessary. By documenting every step taken during the investigation, the author ensures that the findings are grounded in a rigorous and systematic scientific approach.

44. (B) Interpret findings and relate them to existing research
The discussion section is where researchers synthesize their findings to provide a deeper understanding of the study's significance. It involves interpreting the results, explaining unexpected outcomes, and comparing the data with previous studies in the same field. This analytical process goes beyond simple

A well-written research report must adhere to high standards of objectivity, clarity, and accuracy to be considered credible and useful. These characteristics ensure that the findings are presented without bias and can be easily understood by the audience. Plagiarism, which involves using someone else's work or ideas without proper attribution, is a serious ethical violation and fundamentally undermines the integrity of the research. Maintaining academic honesty and originality is essential for the advancement of knowledge and professional reliability.

60. (2, 4, 3, 1, 5)
Bloom's cognitive taxonomy organizes learning objectives into a hierarchy of increasing complexity. It begins with the simple recall of knowledge, followed by comprehension of ideas. Once understood, the information is applied in new situations, then analyzed to explore relationships. Synthesis involves creating something new from the analyzed parts, and evaluation is the highest level of making judgments. Following this progression ensures a systematic development of intellectual abilities, moving from foundational facts to sophisticated, higher-order thinking and assessment skills.

61. (C) Felt needs and interests
The extension philosophy of "starting where the people are" emphasizes that educational programs must be built upon the actual problems and desires of the community. This principle ensures that the content is immediately relevant and valuable to the participants, which significantly increases their motivation to learn and participate. By addressing felt needs rather than imposed agendas, extension workers can build trust and foster sustainable behavioral changes. This approach recognizes the learner as the central focus of the entire educational process.

62. (B) A periodic assessment focused on terminal outcomes and impact
Evaluation is a periodic and systematic process that determines the overall success and impact of a program relative to its original goals. Unlike monitoring, which is a continuous check on daily activities and outputs, evaluation focuses on the broader outcomes and long-term changes brought about by the intervention. It provides a final judgment on the program's worth, helping stakeholders understand if the resources invested led to meaningful improvements. Both processes are essential for effective management and institutional learning.

63. (D) Poster
Non-projected visual aids are materials that do not require an optical projector or electronic screen for viewing. A poster is a classic example, as it uses static images and text on a physical surface to convey a message. These aids are highly versatile, portable, and do not rely on electricity, making them ideal for field settings. While simpler than projected media, they are effective for creating immediate awareness and providing reminders about key practices within the local community.

64. (A) Ensuring its effectiveness and clarity
Pre-testing an audio-visual aid involves presenting it to a small sample of the intended audience before finalizing its production. This step is crucial for identifying any confusing visuals, technical jargon, or unintended cultural messages that might hinder communication. By gathering feedback early, extension workers can refine the material to ensure it is clear, accurate, and culturally appropriate. This process minimizes the risk of misinterpretation and guarantees that the aid effectively supports the educational objectives of the program.

65. (A) (a), (c) and (d) only
Adult education is distinct because learners bring significant life experience and specific internal motivations to the classroom. They typically prefer problem-centered learning that has immediate applicability to their professional or personal lives. Unlike the standardized and often abstract nature of traditional pedagogy, adult education must be flexible and relevant to be effective. Recognizing these characteristics allows educators to design programs that respect the learner's autonomy and utilize their pre-existing knowledge as a foundation for further development.

66. (A) Induction or orientation training
Induction or orientation training is a specialized program designed for new employees to help

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52. (D) Attitudes, values, and emotions
The affective domain in Bloom's taxonomy focuses on the internal processes of learning, including changes in attitudes, values, and emotional responses. This domain is crucial in extension education because technical knowledge alone is often insufficient to bring about behavioral change. Learners must also develop a positive attitude and value the benefits of new practices. Understanding this domain helps extension workers design programs that motivate participants and foster a genuine commitment to adopting improved methods or social behaviors.

53. (C) Case Study Method
The case study method is an effective training tool for developing high-level analytical and decision-making skills in managers. By examining real-world or hypothetical scenarios, participants are challenged to identify problems, evaluate multiple solutions, and predict potential outcomes. This interactive approach encourages critical thinking and allows learners to apply theoretical knowledge to complex, practical situations. It is particularly valuable for management training where there is often no single correct answer and strategic judgment is essential.

54. (B) Granted constitutional status to Panchayati Raj Institutions (PRIs)
The 73rd Constitutional Amendment Act was a landmark development in India's journey toward decentralized governance. It provided a legal and constitutional foundation for Panchayati Raj Institutions, ensuring regular elections and mandated participation of marginalized groups. This amendment empowered local bodies to plan and implement development schemes at the village level, fostering a grassroots approach to progress. By bringing decision-making closer to the people, it significantly enhanced the democratic framework and institutional support for rural community development.

55. (B) P-2, Q-3, R-1, S-4
Participatory Learning and Action utilizes specific tools to gather diverse types of local information. Social mapping identifies community resources and household locations, while transect walks involve observing cross-sections of the local environment. Seasonal calendars track variations in activities and problems throughout the year, and Venn diagrams analyze institutional relationships and their importance to the community. Using these tools correctly allows for a comprehensive understanding of local realities, facilitating effective, community-driven planning and decision-making for sustainable development.

56. (A) Both A and R are true and R is the correct explanation of A.
People's participation is a fundamental requirement for the long-term sustainability of any development program. When community members are involved in the planning and execution phases, they develop a strong sense of ownership and responsibility for the outcomes. This psychological commitment ensures that assets are maintained and practices are continued even after external support ends. Therefore, participation is not just a democratic ideal but a practical strategy for ensuring the lasting success and impact of developmental interventions.

57. (C) Sanitation
Development programs that prioritize the construction of functional toilets are primarily focused on improving sanitation and public health. By reducing open defecation, these initiatives help prevent the spread of waterborne diseases and improve the overall living environment of the community. Sanitation is a key indicator of development and is closely linked to dignity, safety, and health, especially for women and children. Such programs represent a vital investment in human capital by fostering a cleaner and healthier society.

58. (A) Results
The results section of a research report is dedicated to presenting the findings of the study in a factual and objective manner. It typically uses a combination of descriptive text and visual aids like tables, graphs, and charts to summarize the collected data. This section provides the evidence needed to answer the research questions or test the hypotheses. By presenting data clearly and systematically, the author allows readers to see the outcomes of the investigation before moving into interpretation.

59. (D) Plagiarism

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participants at the back of the room can follow the session. This visual support helps maintain the audience's attention and clarifies complex points that are difficult to explain verbally. While requiring technology and power, they significantly enhance the professionalism and reach of educational presentations.

74. (A) Analysis
In Bloom's cognitive taxonomy, the analysis level involves breaking down complex information into its component parts to understand its organizational structure. At this stage, learners look for relationships between elements, identify motives or causes, and make inferences based on the evidence. This intellectual skill is essential for problem-solving, as it allows individuals to examine a situation critically and understand how different factors interact. Mastery of analysis is a prerequisite for higher-order synthesis and evaluation in any field of study.

75. (D) Formal examination-centric approach
Adult education is grounded in theories like andragogy and self-directed learning, which emphasize the autonomy and practical needs of the learner. These approaches focus on problem-solving and immediate application of knowledge rather than theoretical memorization. A formal examination-centric approach is typical of traditional pedagogy for children and is generally ineffective for adults who require flexibility and relevance. By moving away from rigid testing, adult education programs can create a more supportive and engaging environment that respects the learner's life experience and goals.

76. (B) Strengthen the abilities of individuals and institutions to perform their functions effectively.
Capacity building is a strategic process aimed at enhancing the technical, managerial, and organizational skills of people and institutions. Its goal is to empower individuals to fulfill their roles more effectively and to ensure that organizations can achieve their developmental objectives sustainably. By focusing on skill enhancement and institutional strengthening, capacity building reduces dependency on external experts and fosters long-term self-reliance. This approach is essential for creating a resilient and capable workforce that can adapt to future challenges and opportunities.

77. (A) Both A and R are true and R is the correct explanation of A.
Non-Governmental Organisations often exhibit greater flexibility and innovation in community development compared to government agencies. Because they are not constrained by the same level of rigid bureaucratic procedures, NGOs can adapt their strategies quickly to meet local needs and changing circumstances. This agility allows them to experiment with new approaches and build closer, more trusting relationships with marginalized groups. Their independent status enables them to respond more effectively to the specific, evolving realities of the communities they serve.

78. (D) Understand the community's perception of the importance and accessibility of different institutions.
Venn diagrams, often called chapati diagrams in PLA, are used to visually represent the relationships between various institutions and the community. The size of the circles indicates the perceived importance of each institution, while their distance from the center shows how accessible they are to the people. This exercise helps identify which organizations are most valued and which are marginalized or difficult to reach. It provides crucial qualitative data for institutional analysis and planning for more inclusive and effective service delivery.

79. (A) Health indicators for urban, rural, and tribal populations.
The National Health Mission is a comprehensive initiative by the Indian government aimed at improving health outcomes across the entire country. It targets a wide range of indicators, including maternal and child health, disease control, and health infrastructure, with a specific focus on reaching vulnerable urban, rural, and tribal communities. By strengthening public health systems and increasing access to quality care, the mission seeks to ensure equitable health services for all citizens. It represents a significant investment in the nation's human capital.

80. (B) Set context, state the problem, and outline objectives
The introduction of a scientific report serves to orient the reader by providing the necessary background and context for the study. It clearly

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them integrate into an organization. It provides essential information about the company's history, policies, operational procedures, and work culture. This initial training is vital for reducing the anxiety of new recruits and ensuring they understand their roles and responsibilities from the start. By providing a clear framework for performance and behavior, induction training helps employees become productive members of the team more quickly.

67. (C) A top-down, prescriptive approach
A participatory approach to development is based on the active involvement of community members in decision-making and planning. This contrasts sharply with a top-down, prescriptive approach where external experts or government officials decide what is best for a community without local consultation. While the top-down model often leads to dependency and lack of ownership, the participatory model fosters empowerment and sustainability. Moving toward participation reflects a fundamental shift in development philosophy from control toward collaboration and empowerment.

68. (D) Transect Walk
A transect walk is a participatory tool used to explore the spatial distribution of resources and activities within a community. By walking through different zones of the village along a defined path, participants can observe and discuss land use, ecological conditions, and social infrastructure. This interactive exercise allows outsiders to see the community from the residents' perspective and identifies diverse challenges and opportunities. It is an excellent way to gather qualitative data and initiate dialogue about local development priorities.

69. (C) Wage employment
The Mahatma Gandhi National Rural Employment Guarantee Act is a flagship social security scheme that guarantees a minimum number of days of paid manual work to rural households. This program is a primary example of a wage employment scheme designed to provide immediate livelihood support and reduce poverty. By offering a legal right to work, it helps stabilize rural incomes and creates durable community assets like roads and water conservation structures. It serves as a vital safety net for the poor.

70. (B) Bibliography or References
The bibliography or references section is a mandatory component of a scientific report that lists all the sources cited within the text. This provides proper credit to other authors and allows readers to locate the original works for further study. Accurate referencing enhances the credibility of the research by showing it is grounded in existing literature and avoids the ethical issue of plagiarism. Following a consistent citation style ensures that the report meets international academic and professional standards.

71. (D) Result demonstration
A result demonstration is a highly effective extension method that vividly illustrates the benefits of a new practice by comparing it with traditional methods under local conditions. It embodies the principle of "learning by doing" because it provides tangible proof of success that farmers can observe directly. By seeing the actual results, such as higher yields or better pest resistance, participants are more likely to be convinced and adopt the innovation. This practical approach bridges the gap between theory and real-world application.

72. (C) Statement I is true but Statement II is false.
Situation analysis is a fundamental step in program management that provides the essential baseline data needed for realistic planning. It allows extension workers to understand the current state of resources, social structures, and problems within a community. Far from being an unnecessary delay, this analysis ensures that the program is based on factual evidence rather than assumptions. By establishing a clear starting point, it also enables the accurate measurement of progress and the eventual impact of the intervention.

73. (C) Be viewed clearly by a large number of people simultaneously.
Projected aids, such as PowerPoint presentations, are particularly advantageous in large group settings due to their high visibility. They allow the extension agent to display text, images, and videos on a large screen, ensuring that even

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demonstrated by making technical information accessible and easy to understand. Pre-testing these aids with a sample group is also vital to identify potential misunderstandings before full-scale use in the field.

16. (A) 2, 5, 4, 1, 3
The systematic development of an extension program begins with a thorough need assessment to identify community priorities. This is followed by a situation analysis to understand the local context and resources. Once these foundations are laid, detailed planning occurs to outline specific actions. Implementation involves executing these plans, while monitoring and evaluation provide ongoing checks and a final assessment of impact. This chronological sequence ensures that programs are relevant and effective.

17. (B) The acquisition of knowledge and intellectual abilities
Bloom's taxonomy categorizes educational objectives into three domains, with the cognitive domain focusing on mental processes. This domain encompasses the acquisition of factual information, the development of intellectual skills, and the ability to process complex ideas. It ranges from simple recall of data to higher-order thinking skills such as analysis and evaluation. Mastery in this area is fundamental for learners to understand and apply new agricultural or technical concepts.

18. (A) Evaluation
In the cognitive domain of Bloom's taxonomy, evaluation represents the highest level of intellectual activity. It requires the learner to make judgments about the value of ideas, materials, or methods based on specific criteria. This stage involves a synthesis of all previous levels, including knowledge, comprehension, application, analysis, and synthesis. Reaching this level indicates that the individual can critically assess different options and justify their choices in complex real-world situations.

19. (A) Both A and R are true and R is the correct explanation of A.
Non-formal education is designed to be highly adaptable, catering to individuals who cannot participate in the formal school system. Its flexibility regarding time, location, and curriculum makes it accessible to a heterogeneous group of learners with diverse backgrounds. This educational approach focuses on practical needs and immediate application, ensuring that marginalized populations receive relevant knowledge. The inherent flexibility is a direct response to the unique constraints faced by these non-traditional learners.

20. (D) Psychomotor domain
The psychomotor domain focuses on the development of physical skills, coordination, and manual dexterity. When farmers learn to operate new machinery, they are primarily engaging in tasks that require motor skills and the practical application of physical movements. This type of learning is essential in extension for teaching technical procedures and equipment handling. It complements cognitive understanding by ensuring that learners can physically perform the required actions safely and efficiently.

21. (C) Learning is a continuous process from cradle to grave.
Lifelong education is built on the principle that learning is not restricted to formal schooling or childhood. Instead, it is a continuous journey that spans an individual's entire lifespan, encompassing formal, non-formal, and informal experiences. This concept emphasizes the need for constant personal and professional growth to adapt to changing social and technological environments. It recognizes that every stage of life offers unique opportunities for acquiring new knowledge and skills.

22. (B) Difficulty in finding suitable timings and locations for learners
Implementing adult education programs often faces significant hurdles due to the busy lives of the participants. Adult learners typically have various professional and domestic responsibilities, making it difficult to find convenient times and accessible locations for sessions. Unlike children in formal schools, adults require flexible schedules that do not conflict with their livelihoods. Addressing these logistical challenges is crucial for reducing dropout rates and ensuring the success of educational interventions.

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states the research problem being investigated and explains why the topic is significant. Additionally, it outlines the specific objectives and goals the researcher intends to achieve. A well-written introduction justifies the need for the study and sets the stage for the methodology and findings that follow, ensuring the purpose of the research is fully understood.

81. (C) An educational process for bringing about desired behavioral changes in people.
Extension is fundamentally an educational process designed to empower individuals with knowledge and skills to improve their own lives. Its primary goal is to bring about positive behavioral changes, such as the adoption of more efficient farming techniques or healthier lifestyle choices. Unlike regulatory or purely financial services, extension relies on persuasion, demonstration, and participation to motivate change. This process fosters self-reliance and sustainable development by helping people help themselves through informed decision-making and continuous learning.

82. (B) Arranging and structuring resources (human, financial, material) to execute the plan.
The organization step in program management involves the systematic arrangement of all necessary resources to ensure the successful execution of a plan. This includes defining roles and responsibilities for staff, allocating financial budgets, and securing required materials and equipment. By creating a structured framework for action, this step ensures that activities are coordinated efficiently and that resources are used effectively. Proper organization is essential for transforming a theoretical plan into a functional, productive operation in the field.

83. (A) P-4, Q-1, R-2, S-3
Audio-visual aids are classified based on their technical nature and how they convey information. Flash cards are non-projected visual aids, while PowerPoint presentations are projected audio-visual materials. Radio broadcasts represent purely audio aids, and physical models are categorized as three-dimensional aids. Understanding these classifications helps extension workers choose the most appropriate tool for their specific teaching objectives and audience needs. Using a variety of aids can enhance the learning experience by catering to different sensory preferences and learning styles.

84. (B) Specific, measurable, and achievable
In curriculum planning, learning objectives must be clearly defined using the SMART criteria to ensure they are effective and useful. They should be specific about what the learner will know or do, measurable so that progress can be evaluated, and achievable within the given time and resources. Clear objectives provide a roadmap for both the teacher and the learner, ensuring that educational efforts are focused and purposeful. This clarity is essential for designing relevant content and accurately assessing the final learning outcomes.

85. (A) (a) and (d) only
Lifelong education is a broad concept that encompasses all forms of learning—formal, non-formal, and informal—throughout an individual's life. It is not restricted to high-tech professionals or formal schooling but is essential for everyone to adapt to the constant changes in modern society. This approach emphasizes personal growth and the continuous acquisition of skills needed for active citizenship and employment. By promoting a culture of learning, lifelong education ensures individuals remain resilient and capable of managing their own development in a dynamic world.

86. (C) On-the-job training
On-the-job training is the most effective method for teaching manual tasks that require specific physical skills and coordination. It allows the learner to practice the task in the actual work environment under the guidance of a supervisor or experienced colleague. This hands-on approach provides immediate feedback and ensures that the skills learned are directly applicable to the job. By combining observation with practice, on-the-job training helps individuals gain proficiency and confidence in performing technical procedures safely and efficiently.

87. (B) To facilitate, guide, and motivate community members towards a common goal.
Effective leadership in community organization is about empowering others rather than exercising unilateral control. A good leader acts as a facilitator who helps community members identify their

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who can be reached. This makes interpersonal approaches less efficient for broad-scale outreach compared to mass media or group methods. They are best used strategically for addressing complex problems or key influencers.

116. (B) P-4, Q-3, R-1, S-2
Bloom's taxonomy categorizes educational goals into three domains: cognitive (intellectual), affective (emotional), and psychomotor (physical). Within the cognitive domain, levels of complexity range from basic knowledge to sophisticated evaluation, which involves judging the value of materials. Correctly identifying which domain and level a learning objective falls into is essential for designing appropriate teaching strategies and assessment tools. This comprehensive framework ensures that all aspects of human learning—thinking, feeling, and doing—are addressed in an integrated and systematic manner.

117. (C) Perceived lack of immediate benefits and work conflicts
Adult education programs often face high dropout rates because participants must balance their learning with significant professional and personal duties. If adults do not perceive immediate, tangible benefits from the curriculum that outweigh the time lost from work, they are likely to leave the program. Unlike formal education, adult learning must be highly relevant and flexible to accommodate the learners' busy lives. Addressing these practical conflicts and ensuring clear applicability is crucial for maintaining motivation and program success.

118. (A) Recruitment
Training encompasses a variety of active learning methods such as role-playing, simulation, and case studies, which are designed to enhance a learner's specific job-related skills. Recruitment, on the other hand, is a human resource management process focused on attracting and selecting the best candidates to fill job vacancies. While both are critical for organizational success, recruitment is about finding talent, whereas training is about developing talent. Conflating these distinct functions can lead to inefficiencies in managing and developing a skilled workforce.

119. (A) Both A and R are true and R is the correct explanation of A.
Panchayati Raj Institutions are vital for community development in India because they provide a constitutional framework for local self-governance. By empowering rural bodies to plan and execute economic and social justice schemes, PRIs ensure that development is responsive to local priorities. This decentralized approach brings administration closer to the people, facilitating more effective participation and transparency. The legal mandate of PRIs as development planners makes them the primary institutional support structure for fostering progress at the grassroots level.

120. (D) Information is generated and analyzed by the community members themselves, with facilitation.
Participatory Learning and Action differs fundamentally from traditional research by placing community members in the role of researchers and analysts. Instead of an external expert collecting and interpreting data, the process is facilitated so that local people generate and analyze their own information. This approach ensures that the findings reflect the community's lived reality and priorities. By empowering people to lead the analysis, PLA fosters a deeper understanding of local issues and builds the collective capacity for sustained action.

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121. (C) The universalization of elementary education.
Sarva Shiksha Abhiyan is a major flagship program by the Indian government aimed at providing free and compulsory education to all children between the ages of six and fourteen. Its primary goal is the universalization of elementary education, ensuring that every child has access to quality schooling regardless of their background. By improving school infrastructure and providing learning materials, the scheme seeks to achieve total literacy and social equity. This initiative is fundamental for building the nation's future human capital.

122. (B) Abstract - A comprehensive summary of the entire report
An abstract is a concise but thorough summary that provides an overview of a research report's main purpose, methodology, results,

information in new contexts, but simply the ability to remember and reproduce what has been learned. Establishing this base of knowledge is a necessary first step before moving toward more complex levels like application or analysis.

95. (C) Overcoming social and cultural barriers.
Implementing non-formal education for marginalized communities is often challenging due to deep-seated social and cultural barriers. These may include traditional beliefs that devalue education, language differences, or social hierarchies that restrict participation. Overcoming these hurdles requires sensitive and culturally appropriate strategies that build trust and demonstrate the practical benefits of the program. Address these barriers is essential for ensuring inclusive access and for the overall success of educational interventions aimed at empowering the most vulnerable members of society.

96. (B) Self-employment and job creation
Entrepreneurship development is a vital strategy for promoting economic independence through self-employment. By providing individuals with the skills and mindset to start and manage their own businesses, these programs reduce reliance on traditional wage labor. This approach not only helps individuals generate their own income but also contributes to job creation within the wider community. Fostering entrepreneurship is a key driver of innovation and economic growth, empowering people to become self-reliant and productive members of a dynamic economy.

97. (C) People can work together to identify and solve their common problems.
Community organization is founded on the belief in the collective power and wisdom of local people. It assumes that community members, when provided with a supportive process, can effectively identify their shared needs and work together to find sustainable solutions. This principle emphasizes self-help and mutual cooperation rather than dependence on external aid or expertise. By mobilizing local resources and fostering a spirit of collaboration, community organization empowers residents to take active charge of their own developmental progress.

98. (C) Statement I is false but Statement II is true.
In Participatory Learning and Action, the role of the external facilitator is fundamentally different from that of a traditional researcher. Rather than just collecting data for their own use, the facilitator works to enable and empower local people to conduct their own analysis and decision-making. This approach prioritizes local knowledge and ensures that the research process itself is a learning and empowering experience for the community. The goal is to facilitate community-led development rather than to extract information for outside purposes.

99. (C) Skill development for the youth.
The Pradhan Mantri Kaushal Vikas Yojana is a flagship scheme by the Indian government specifically designed to enhance the employability of the youth. It provides industry-relevant skill training across various sectors to help individuals secure better livelihoods. By focusing on practical, demand-driven skills, the program aims to bridge the gap between job seekers and industry requirements. This initiative is a critical component of the national strategy to leverage the demographic dividend and promote economic growth through a more skilled workforce.

100. (A) Both A and R are true and R is the correct explanation of A.
Data interpretation represents a critical stage in research that moves beyond simply presenting numerical findings or observations. It involves a sophisticated analysis where the researcher evaluates the meaning of the results in relation to the original hypothesis and existing literature. This process clarifies the significance of the findings, helping to draw valid conclusions and provide contextual relevance to the research questions being investigated in the study. Interpretation transforms raw data into meaningful knowledge that can inform policy and practice.

101. (C) Learners are more likely to participate if they derive tangible benefits and a sense of accomplishment.
The principle of satisfaction suggests that participants in extension programs must feel that their involvement is worthwhile. When learners achieve tangible results, such as increased crop yields or improved health, they gain a sense of accomplishment that motivates further participation. This psychological reward is

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and uninformative. Effective data presentation ensures that key findings are communicated clearly and accurately in a research report.

143. (D) The problems and needs identified by the people themselves
The principle of felt needs is central to extension philosophy, emphasizing that programs must be based on the priorities recognized by the community members. When education and development activities align with the actual concerns of the people, their motivation to participate and adopt new practices increases significantly. This approach ensures that the extension service remains relevant and responsive to local realities rather than being driven by external assumptions. By starting with what people want, extension fosters sustainable self-improvement and lasting behavioral change.

144. (B) Implementation
In the systematic cycle of program management, implementation is the logical next step after the planning phase is completed. Once a detailed blueprint or course of action has been developed, the manager must mobilize resources and begin the actual execution of activities in the field. This stage translates theoretical goals into practical results, requiring careful coordination and monitoring. Proper sequencing ensures that actions are guided by clear objectives, making the overall program more efficient and increasing the chances of achieving the desired impact.

145. (C) Shows the proven advantages of a new practice in the local setting.
A result demonstration is a powerful tool in extension because it provides tangible, locally-sourced proof that a new technology or practice works better than traditional methods. By comparing outcomes, such as crop yield or disease resistance, side-by-side in a farmer's own field, it overcomes skepticism and builds trust. Seeing actual results under familiar conditions is far more persuasive than reading about them in a bulletin or hearing a lecture. This method effectively motivates adoption by demonstrating clear, practical benefits for the community.

146. (D) Psychomotor
A learning objective that involves physical actions, such as operating a tractor, belongs to the psychomotor domain of Bloom's taxonomy. This domain is concerned with the acquisition of motor skills, physical coordination, and the ability to perform tasks requiring manual dexterity. In extension education, developing psychomotor skills is essential for ensuring that participants can correctly and safely use new tools or technical processes. Mastery in this domain indicates the learner's practical competence and readiness to implement recommended physical practices in the field.

147. (B) The need to assess practical skills and life improvements
Evaluating non-formal education requires a shift away from traditional academic testing toward assessing real-world outcomes and life improvements. Because these programs focus on functional skills and empowerment, success must be measured by the learner's ability to apply knowledge to solve personal or community problems. This can be complex, as long-term impacts like increased income or better health are harder to quantify than simple test scores. Effective evaluation must capture these qualitative changes to truly understand the program's value and effectiveness.

148. (A) Capacity building for human resource development
Programs that aim to enhance the skills and leadership abilities of elected representatives are a direct form of capacity building for human resource development. By providing women leaders with the knowledge and confidence to perform their official duties effectively, these initiatives strengthen local governance and promote gender equity. This strategic investment in people ensures that institutions can function more efficiently and that developmental decisions at the grassroots level are more inclusive and capable. Capacity building is essential for fostering a resilient and skilled leadership within the community.

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149. (D) Promoting internal conflicts
Leadership in community development is focused on fostering unity and guiding a group toward achieving shared goals. Key functions include initiating action, motivating members, and representing the group's interests to external agencies. A good leader works to resolve

internal leadership, which ensures they remain responsive to the unique challenges of their neighborhood. They are vital for fostering social capital and local self-reliance.

109. (C) Embracing error and learning from mistakes.
A core principle of Participatory Learning and Action is the recognition that mistakes are part of the learning process. PLA facilitators and community members are encouraged to embrace error as an opportunity for reflection and improvement. This open-minded approach fosters a more honest and effective analysis of local conditions and challenges. By learning from what does not work, the community can refine its plans and develop more robust strategies for sustainable development, ensuring that the process remains dynamic and adaptive.

110. (A) Nutrition and Health
The Integrated Child Development Services program utilizes Anganwadi centers to deliver essential nutrition and health support to pregnant women and young children. By providing supplementary food, immunization, and health check-ups, the scheme aims to reduce child mortality and combat malnutrition. This comprehensive approach targets the early stages of human development, ensuring that children have a healthy start in life. Such programs are critical for the long-term physical and cognitive well-being of the nation's most vulnerable populations.

111. (D) Using a method demonstration with hands-on involvement
For teaching complex processes to semi-literate learners, a method demonstration is far more effective than text-based or purely lecture-based approaches. By showing the step-by-step procedure in a practical setting and encouraging learners to participate, the extension agent makes abstract concepts tangible and easier to remember. Hands-on involvement ensures that participants gain the confidence and skill needed to perform the task themselves. This interactive method overcomes literacy barriers and fosters better understanding and adoption of improved agricultural or technical practices.

112. (C) Statement I is true but Statement II is false.
The discussion section of a research report provides the author with the opportunity to interpret the results and explore their broader implications within the field. This includes speculating on the meaning of findings and comparing them to existing literature. However, the methodology section should focus solely on the detailed description of how the study was conducted, including design and data collection. It does not involve the interpretation of results, which is properly reserved for the discussion and conclusions.

113. (C) Democracy and voluntary participation
The philosophical foundation of extension education is rooted in democratic values, emphasizing that participation must be a voluntary choice made by the people. Unlike coercive systems that impose change through force, extension relies on education and persuasion to encourage behavioral improvements. This approach respects individual autonomy and fosters a sense of personal responsibility for development. By ensuring that change is desired by the community, extension builds the foundation for long-term sustainability and genuine, self-motivated social and economic progress.

114. (D) Turning plans into action
Implementation is the critical phase of program management where theoretical designs are transformed into real-world activities. This stage involves the mobilization of resources and the actual performance of tasks to achieve the program's stated objectives. It is the most active and visible part of the management cycle, requiring constant coordination and problem-solving. Effective implementation ensures that the planned benefits reach the target audience and that the overall strategy is translated into tangible improvements within the community or organization.

115. (A) Time-consuming and have limited coverage.
Interpersonal methods, such as farm and home visits, are highly effective for providing personalized guidance and building deep trust with individuals. However, their primary drawback is that they require a significant amount of the extension worker's time for each contact, which severely limits the total number of people

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essential for long-term behavioral change and the sustainability of educational efforts. Ensuring that programs meet the needs and expectations of the learners fosters a positive environment for learning and encourages the wider adoption of recommended practices.

102. (C) Implementation - Assessing the final worth of the programme
In program management, implementation refers to the active execution of planned activities, while evaluation is the process used to assess the final worth and impact of the program. Misidentifying these functions can lead to poor management and a failure to accurately measure success. Evaluation provides the evidence needed to determine if objectives were met, while implementation focuses on doing the work itself. Correctly distinguishing between these steps is fundamental for maintaining accountability and for learning how to improve future development initiatives.

103. (C) The objective of the communication and the characteristics of the audience.
Choosing the most effective extension method requires a careful analysis of what is being communicated and to whom. Factors such as the audience's literacy level, cultural background, and previous experience with the topic are crucial. Additionally, the specific goal of the session—whether to create awareness, teach a skill, or change an attitude—dictates the best approach. A one-size-fits-all method is rarely successful; instead, matching the teaching method to the context ensures that the message is understood and adopted.

104. (B) (b) and (d) only
Extension methods are often categorized by the size of the audience they reach. Small group methods, like a demonstration for 15 farmers, allow for close interaction and hands-on learning. Large group methods, such as village meetings or campaigns, are designed to communicate with a broader audience simultaneously. Farm and home visits are individual interpersonal methods, while radio broadcasts are mass media techniques. Selecting the appropriate category is essential for managing resources efficiently and achieving the specific communication objectives of the extension program.

105. (C) Application
At the application level of Bloom's cognitive taxonomy, learners demonstrate their ability to use previously learned information, rules, or concepts in new and concrete situations. This stage shows that the individual has moved beyond simple understanding to practical implementation. For example, applying knowledge of soil science to correctly use fertilizers in a field is a clear demonstration of this skill. Application is a vital step in extension education, as it bridges the gap between theoretical classroom learning and real-world practical usage.

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106. (B) Adult education
Andragogy is the theory and practice specifically designed for adult education, contrasting with pedagogy, which focuses on teaching children. It emphasizes that adults are self-directed learners who bring a wealth of life experience to the educational process. Their motivation to learn is often linked to the immediate need to solve professional or personal problems. Understanding the principles of andragogy allows extension workers to design more effective, respect-based, and relevant programs that cater to the unique characteristics and goals of adult learners.

107. (D) To encourage dependency on welfare schemes
Skill development programs are strategically designed to enhance human capital and promote economic independence. Their primary objectives include improving employability, fostering entrepreneurship, and increasing productivity in various sectors. These programs aim to empower individuals with the competencies needed to secure quality jobs or start their own businesses. Encouraging dependency on welfare schemes would be entirely contrary to these goals, as the ultimate purpose is to create a more self-reliant, capable, and productive workforce that contributes to national development.

108. (A) Community Based Organisation (CBO)
A local Mahila Mandal is a classic example of a Community Based Organisation because it is formed and managed by residents of the community to address their own needs. These groups empower local women by providing a platform for collective action on issues like health, sanitation, and economic security. CBOs are characterized by their grassroots focus and

and conclusions. It allows readers to quickly understand the core essence of the study without reading the entire document. Correctly pairing sections with their content is vital for clear scientific communication; for example, the methodology describes the research process, and the results present factual findings. The abstract serves as a critical entry point for researchers to identify relevant literature efficiently.

123. (C) (a), (b), (c) and (e) only
Extension education is characterized by its flexible, two-way communication and its emphasis on practical learning by doing for the community's benefit. It is not a coercive system but a democratic and educational one that adapts to local conditions to ensure relevance. By fostering collaboration and active participation, extension empowers individuals with knowledge and skills to improve their own lives. These fundamental features distinguish extension from formal, classroom-based schooling and from top-down regulatory or administrative governmental processes.

124. (D) Evaluation
Evaluation is the critical final stage in the extension program cycle, where the overall results are compared against the initial objectives to judge the program's success. This systematic assessment helps determine the value of the resources invested and provides valuable lessons for future planning. It goes beyond simple monitoring of activities to measure the actual changes and impact achieved within the community. Through evaluation, stakeholders can identify what worked, what failed, and how to improve the effectiveness of development initiatives.

125. (C) Radio broadcast or television spot
To create broad awareness among a massive and geographically scattered audience, mass media methods like radio and television are the most efficient choices. These platforms can deliver a consistent message to thousands of people simultaneously at a very low cost per person contacted. While they lack the personalized feedback of interpersonal methods, they are unrivaled for initiating large-scale public information campaigns and creating general interest. Mass media is an essential tool in extension for reaching beyond local boundaries and achieving wide outreach.

126. (B) Affective
Learning objectives that focus on internalizing specific values, such as the importance of soil conservation, fall within the affective domain of Bloom's taxonomy. This domain is concerned with the development of attitudes, appreciations, and emotional commitments. In extension education, fostering a positive attitude toward sustainable practices is often just as important as teaching the technical skills themselves. By addressing the affective domain, programs can inspire a genuine and lasting motivation for participants to adopt and maintain improved behaviors for the long term.

127. (B) Providing equitable access for all groups across the lifespan
A primary challenge in the implementation of lifelong education is ensuring that learning opportunities are available and accessible to everyone, regardless of age, gender, or socio-economic status. This requires overcoming barriers such as high costs, inflexible schedules, and digital divides that might exclude certain populations. Achieving equitable access is essential for fulfilling the promise of lifelong learning as a tool for personal empowerment and social justice. It demands proactive policies and diverse delivery systems that cater to the unique needs of all individuals.

128. (B) To enhance the community's ability to manage its own affairs and development.
The ultimate goal of capacity building within community development is to foster long-term self-reliance by strengthening local skills and institutional frameworks. It aims to empower community members to identify their own challenges, mobilize resources, and manage development activities independently. This approach moves away from creating a permanent dependency on external aid toward building a resilient and capable community. By enhancing local governance and problem-solving abilities, capacity building ensures that progress is sustainable and truly reflective of the community's own priorities.

129. (B) 2, 3, 1

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shared problems and potential solutions. They motivate the group to work together and guide the process toward achieving common objectives. By fostering participation and local ownership, leaders ensure that community development is sustainable and reflects the true needs and values of the people. This collaborative approach builds stronger, more self-reliant communities.

88. (D) Anyone who is affected by, or can affect, the project's outcome.
Stakeholders represent a diverse group of individuals and organizations with a vested interest in a development project. This includes not only the direct beneficiaries but also the project staff, donors, local government officials, and even groups that might be negatively impacted. Recognizing all stakeholders is crucial for comprehensive planning and for identifying potential sources of support or resistance. By engaging with this broad group, project managers can ensure more equitable outcomes and build a wider consensus for sustainable development activities.

89. (C) Infrastructure development
Programs that provide financial assistance for housing construction are a key component of infrastructure development. By addressing the fundamental need for shelter, these initiatives improve the living standards and social stability of the urban poor. Safe and affordable housing is a cornerstone of urban planning and is closely linked to health, education, and economic opportunities. Such infrastructure projects represent a significant investment in the physical environment, creating durable assets that contribute to the long-term well-being of society.

90. (B) Editing and revision
Editing and revision represent a critical final stage in the production of a research report. This process involves a careful review of the draft to improve the logical flow, clarity of expression, and overall accuracy of the findings. It also includes correcting grammatical errors and ensuring that the report adheres to the required formatting and citation styles. Thorough editing enhances the professional quality of the report, making the research more accessible and persuasive to the intended audience.

91. (A) 3, 1, 4, 2
The history of extension in India has seen the sequential development of various institutional frameworks. The Grow More Food Campaign was an early post-war initiative, followed by the nationwide Community Development Programme in 1952. Krishi Vigyan Kendras were established later to provide vocational training in agriculture, and the Training and Visit (T&V) system was introduced to professionalize the extension service. Understanding this chronological progression is vital for recognizing how extension strategies have evolved to meet the changing needs of the nation over time.

92. (B) Situation Analysis
Situation analysis involves identifying the root causes of problems within a community by examining the existing socio-economic environment. In this scenario, recognizing that low prices are due to poor storage and market linkages represents a deeper understanding of the local context beyond just crop yields. This factual assessment provides the necessary foundation for planning relevant interventions that address the actual barriers to farmers' prosperity. By understanding these complexities, extension workers can design more effective and comprehensive development strategies.

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93. (A) A traditional media used as an extension method.
Traditional media, such as puppet shows, folk songs, and local theater, are powerful extension tools that are culturally familiar to rural audiences. These methods can communicate complex social or health messages in an entertaining and non-threatening way. Because they are rooted in local traditions, they tend to build high levels of trust and engagement with the community. Utilizing traditional media allows extension workers to overcome literacy barriers and deliver impactful educational content in a manner that resonates deeply with the local culture.

94. (A) Knowledge
An objective that requires a participant to list specific steps belongs to the knowledge level of Bloom's cognitive taxonomy. This foundational level focuses on the recall of factual information, terms, and basic concepts. It does not require deep understanding or the ability to apply the

information within a well-structured teaching environment.

136. (C) Synthesis
Synthesis in Bloom's cognitive taxonomy represents a high-order thinking skill where learners combine disparate elements to form a new, coherent whole. This creative process involves original thinking, such as designing a new plan, writing a unique report, or developing an innovative solution to a problem. It requires the ability to integrate knowledge and skills from multiple areas to produce something unique. Achieving this level indicates that the learner can move beyond analyzing existing information to creating something entirely new and valuable.

137. (C) Relevance to the learner's life and immediate needs
A key characteristic of non-formal education is its strong focus on the practical, immediate needs of the participants. Unlike the often abstract and standardized curriculum of formal schools, non-formal programs are designed to be flexible and relevant to the learner's specific context. This approach ensures that the knowledge and skills gained can be applied directly to improve livelihoods or social conditions. By prioritizing functional learning over degrees and diplomas, non-formal education effectively empowers diverse groups to address their real-world challenges.

138. (A) (a) and (c) only
Entrepreneurship development is a strategic process aimed at building the skills and mindset needed to start and manage successful business ventures. It focuses on developing risk-taking abilities, technical competencies, and management expertise to help individuals become self-reliant job creators. Contrary to creating job seekers, this approach fosters innovation and economic growth by encouraging people to transform their ideas into productive enterprises. By providing the necessary training and support, these programs empower individuals to drive economic progress and improve community livelihoods.

139. (C) P-4, Q-3, R-1, S-2
Community development is supported by a variety of institutional structures, each with a unique role and legal status. Panchayati Raj Institutions are constitutional bodies for local governance, while NGOs are voluntary organizations that often have a broader scope. Community Based Organisations are local groups formed by residents for specific causes, and Self-Help Groups are specialized CBOs focused on small-scale savings and credit. Correctly matching these institutions with their primary characteristics is essential for understanding the diverse ecosystem of developmental support.

140. (A) Both A and R are true and R is the correct explanation of A.
Incorporating a stakeholder perspective in program development is vital for ensuring that the needs and concerns of all affected groups are considered. By identifying and engaging with diverse stakeholders early in the process, planners can identify potential conflicts and build a broad consensus for action. This inclusive approach leads to more equitable designs and significantly increases the likelihood of long-term sustainability. Programs built with such broad input are viewed as more legitimate and are better equipped to achieve lasting community impact.

141. (B) Nutrition security
The National Food Security Act is a landmark legislation in India designed to ensure that vulnerable populations have access to adequate quantities of quality food at affordable prices. By providing subsidized food grains through a targeted distribution system, the act directly addresses the critical issue of nutrition security and hunger. This focus on basic dietary needs is a fundamental component of social welfare, aimed at improving the health and well-being of the poor. It represents a legal commitment to protecting the nutritional status of every citizen.

142. (A) A frequency distribution table or a histogram.
To represent the distribution of a large dataset, such as household income, using frequency distribution tables or histograms is highly effective. These visual and organized formats allow the reader to quickly see how the population is spread across different income brackets, revealing patterns of inequality or clusters within the data. This approach is far superior to listing individual values, which would be overwhelming

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The Panchayati Raj system in India is structured as a three-tier hierarchy to ensure decentralized governance from the village to the district level. It starts with the Gram Panchayat at the village level, followed by the Panchayat Samiti at the block level, and culminates in the Zila Parishad at the district level. This institutional structure is designed to involve citizens in local planning and to deliver essential social and economic development programs directly to the grassroots population, fostering local democratic participation.

130. (C) Cross-checking information using multiple sources, methods, or investigators to improve validity.
Triangulation is a critical technique used in qualitative research and Participatory Learning and Action to ensure the reliability and validity of information. It involves gathering data from diverse sources, using different research methods, or involving multiple investigators to see if the findings consistently align. By cross-checking information in this way, researchers can minimize bias and develop a more accurate and comprehensive understanding of complex social realities. This systematic approach enhances the overall credibility and robustness of the study's conclusions.

131. (A) Cleanliness and sanitation
The Swachh Bharat Mission is a nationwide movement launched by the Indian government to achieve universal sanitation coverage and eliminate open defecation. Its primary focus is on promoting cleanliness, building functional toilets, and improving solid waste management systems in both rural and urban areas. This campaign seeks to change public behavior and foster a sense of civic responsibility toward a cleaner living environment. By addressing these fundamental sanitation issues, the mission aims to improve public health and national dignity on a massive scale.

132. (C) Visually represent trends and relationships in the data
In a research report, graphs and charts serve as powerful tools for simplifying and highlighting key patterns within complex numerical data. They allow the reader to quickly grasp trends, comparisons, and relationships that might be obscured in raw data tables or long textual descriptions. Effective visual representation enhances the clarity of the findings and makes the researcher's arguments more persuasive and accessible. This objective presentation of information is essential for communicating the significance of the research results accurately and efficiently.

133. (D) Smith-Lever Act of 1914
The Smith-Lever Act of 1914 was a pivotal moment in the history of extension education in the United States. It established a formal partnership between land-grant universities and the federal government to provide practical agricultural and home economics education to the public. This act created the Cooperative Extension Service, which remains a model for delivering research-based information directly to rural communities. Its implementation fundamentally transformed agricultural productivity and rural development by bridging the gap between scientific knowledge and everyday farming practices.

134. (A) Both Statement I and Statement II are true.
Monitoring and evaluation are distinct but complementary management functions essential for successful program delivery. Monitoring is a continuous process that checks if activities are occurring as planned, allowing for timely adjustments during implementation. Evaluation is a periodic assessment that measures the overall impact and achievement of the program's goals. Both are necessary to ensure accountability, identify successes and failures, and provide the evidence needed to improve future interventions. Together, they form a robust framework for learning and organizational effectiveness.

135. (A) They are a substitute for good teaching and preparation.
Audio-visual aids are valuable tools designed to enhance and supplement the instructional process, but they can never replace the need for thorough preparation and skilled teaching. Their effectiveness depends on how well they are integrated into a clearly planned lesson and used to clarify specific points. Relying on technology alone without a strong educational foundation often leads to superficial learning. Instead, these aids should be used strategically to engage learners and improve the retention of

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disagreements and build consensus rather than promoting internal conflicts, which can paralyze community progress. Effective leadership creates a supportive and collaborative environment where everyone can contribute to collective improvement, ensuring the sustainability and overall success of community organization initiatives and developmental projects.

150. (A) (a), (c) and (d) only
Participatory Learning and Action views local people as active partners who possess valuable knowledge for their own development. It utilizes interactive, group-based methods to facilitate community-led inquiry and analysis, prioritizing the process of engagement over immediate outputs. PLA is inherently flexible and adaptable to local contexts, contrasting with top-down, extractive research methodologies. By fostering a sense of ownership and mutual learning, this approach ensures that developmental strategies are grounded in reality and are more likely to achieve sustainable, meaningful results for the community.

151. (B) Entrepreneurship and self-employment
Programs like Mudra Yojana and Stand-Up India are strategically designed to promote economic independence by fostering entrepreneurship and self-employment. By providing accessible credit and financial support to aspiring business owners, especially from marginalized groups, these schemes help create new enterprises and jobs. This focus on self-reliance empowers individuals to generate their own income and contribute to local economic growth. Fostering a spirit of enterprise is a key driver of national development, transforming job seekers into self-directed and productive job creators.

152. (B) The broader body of existing literature and theory.
The discussion section is the interpretive heart of a scientific report, where findings are contextualized within the wider academic field. It is the researcher's responsibility to explain how their results confirm, contradict, or expand upon existing literature and theories. This connection demonstrates the study's relevance and its contribution to the advancement of knowledge. By relating data to broader scholarly conversations, the author provides a deeper understanding of the significance and implications of their work for both theory and practice.

153. (B) Ignoring local customs can lead to the rejection of new ideas
The principle of cultural difference is vital in extension because people's beliefs and customs strongly influence their willingness to adopt new practices. Programs that ignore or contradict local traditions often face resistance and failure, regardless of their technical merits. By understanding and respecting the cultural context, extension workers can adapt their messages and methods to be more acceptable and relevant. This cultural sensitivity builds trust and ensures that developmental changes are integrated smoothly and sustainably into the community's way of life.

154. (A) To provide a factual basis for decision-making and setting realistic objectives.
Situation analysis is the cornerstone of effective program planning, as it provides a detailed and factual understanding of the local environment. By identifying existing resources, social structures, and core problems, extension workers can set goals that are both relevant and achievable. This diagnostic phase ensures that decisions are based on evidence rather than assumptions, leading to more efficient use of resources. A thorough situation analysis is essential for designing a strategy that addresses the community's actual needs and potential for progress.

155. (C) Combined mass media, group discussion, and demonstrations
For complex campaigns aiming at awareness, understanding, and adoption, a multi-pronged approach using several extension methods is most effective. Mass media creates broad initial awareness, while group discussions allow for peer learning and the clarification of doubts. Method or result demonstrations then provide the practical proof and skills needed for actual adoption. Using this combination caters to different learning styles and ensures that the message is reinforced through multiple channels, leading to higher retention and more permanent behavioral change within the community.

156. (A) Evaluation

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that development is truly responsive to the unique needs of the people they serve.

210. (B) 1, 2, 3, 4
A typical PLA village exercise follows a logical sequence to build a comprehensive understanding of the community. It often starts with a transect walk for an overview of the environment, followed by social mapping to identify the residents and social structures. Venn diagramming then analyzes institutional relationships, and the process concludes with problem ranking to prioritize issues for action. This systematic approach ensures that community analysis is thorough and that subsequent development plans are based on a deep understanding of local realities and the community's own identified priorities.

211. (A) Good all-weather road connectivity to unconnected villages.
The Pradhan Mantri Gram Sadak Yojana is a major national program in India designed to improve rural livelihoods by providing all-weather road connectivity to isolated villages. Reliable roads are essential for increasing access to markets, health services, and educational facilities, which are key drivers of socio-economic development. By reducing transportation costs and time, the scheme integrates rural areas into the wider economy and promotes overall regional growth. This strategic investment in physical infrastructure creates durable assets that significantly enhance the quality of life for millions of rural citizens.

212. (C) Statement I is false but Statement II is true.
The results section of a scientific report should present the study's findings in a direct, objective, and factual manner, often utilizing tables and figures for clarity. It is not the place for the researcher to include personal opinions or interpretations. Instead, interpretation should be reserved for the discussion and conclusion sections, where the significance of the data is explored. Maintaining this distinction is essential for ensuring that the report is scientifically rigorous and that the findings can be independently evaluated by the audience.

213. (B) Method Demonstration
A method demonstration is built on the twin principles of "teaching through showing" and "learning by doing." It involves the extension agent visually demonstrating a specific technique, such as composting or grafting, while learners observe and then practice the skill themselves. This interactive and practical approach is highly effective for technical skill development, as it bridges the gap between theoretical knowledge and real-world application. By actively involving the participants, method demonstrations ensure that learners gain the confidence and competence needed to implement the practice independently.

214. (A) Receiving (Attending)
In Krathwohl's taxonomy of the affective domain, receiving represents the lowest level of learning, where the individual becomes aware of a specific idea or value. At this stage, the learner is simply willing to pay attention and listen, which is the necessary first step before they can respond or begin to value the concept. Fostering this initial awareness is a critical goal in extension education, as it opens the door for deeper behavioral and attitudinal changes. Moving learners through this domain is essential for creating genuine and lasting commitment to progress.

215. (A) Both A and R are true and R is the correct explanation of A.
The evaluation of non-formal education must move beyond academic testing to focus on the acquisition of functional life skills and personal empowerment. Since the primary goal of these programs is to enable learners to solve their own problems and improve their livelihoods, success should be measured by the practical impact on their lives. Traditional exams fail to capture these qualitative changes, which are the true indicators of educational success in a non-formal context. Effective evaluation must assess these real-world outcomes to accurately judge the program's overall worth.

216. (A) The source of income (salary from an employer vs. profit from one's own business).
The fundamental difference between wage and self-employment lies in the economic relationship of the individual to their work. In wage employment, an individual earns a regular salary by working for an employer, with less direct risk. In self-employment, the individual

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163. (B) It takes place outside the formal school system and is adapted to the needs of the learners.
Extension is defined as non-formal education because it operates outside the traditional, rigid framework of formal schools and universities. It is learner-centered and highly adaptable, focusing on delivering practical knowledge that addresses the immediate problems of the participants. Unlike formal schooling, extension has no fixed age requirements or standardized curriculum; instead, it provides flexible learning opportunities in community settings. This educational approach ensures that research-based information is accessible and useful to those who may have missed formal education opportunities.

164. (B) Corrective action during implementation
In the program management cycle, monitoring is a continuous tool for checking if activities are progressing according to plan. Its primary purpose is to identify deviations or bottlenecks early so that managers can take immediate corrective action. By providing a real-time assessment of performance, monitoring ensures that resources are being used efficiently and that the program remains on track to achieve its objectives. This ongoing feedback loop is essential for maintaining operational quality and for ensuring organizational accountability during implementation.

165. (A) 2, 4, 1, 3
Extension methods are strategically chosen based on their potential for audience outreach. Farm and home visits are highly individual and have the smallest reach, followed by method demonstrations which typically involve small groups. Mass meetings can reach hundreds of people in a single community setting, while radio talks have the largest potential reach, contacting thousands across an entire region simultaneously. Understanding this progression in audience size helps extension workers allocate their time and resources effectively to balance personalization with wide-scale information dissemination.

166. (B) It should be reviewed and updated periodically to remain relevant to the changing needs of the community.
A dynamic curriculum for extension education is one that is subject to continuous evaluation and revision. Because agricultural technology, economic conditions, and community needs are constantly evolving, the educational content must also change to remain effective. A static curriculum quickly becomes obsolete and fails to address real-world challenges. Regular updates ensure that the information provided is accurate and relevant, fostering better participation and higher adoption rates of improved practices. Flexibility is a fundamental principle for successful, long-term non-formal education.

167. (B) Lack of relevant content that connects to their livelihoods.
One of the greatest challenges in rural adult education is ensuring that the content is directly relevant to the participants' daily lives and work. Adult learners are motivated by the practical application of knowledge; if the curriculum feels too abstract or disconnected from their livelihoods, they are likely to lose interest and drop out. To be successful, programs must integrate literacy and numeracy skills with agricultural training or other income-generating activities. Providing meaningful content is essential for maintaining engagement and achieving long-term educational impact.

168. (A) Coaching
Coaching is a primary example of an on-the-job training method, where a more experienced colleague or supervisor provides one-on-one guidance to an employee during actual work activities. This approach allows for immediate feedback and the practical application of skills in a real-world environment. Unlike off-the-job methods like lectures or case studies, coaching is deeply integrated into daily operations. It fosters the development of specific job competencies and professional confidence, helping employees improve their performance while simultaneously fulfilling their regular workplace responsibilities.

169. (B) NGO - Focus on profit maximization
Support structures for community development are categorized by their primary goals and legal status. Panchayati Raj Institutions focus on local self-governance, and Community Based Organisations are local groups formed to address community needs. Self-Help Groups are specialized for savings and credit. Non-Governmental Organisations are voluntary,

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Evaluation is the highest level of learning in Bloom's cognitive taxonomy, requiring the ability to judge the value or merit of ideas and solutions based on specific criteria. This complex skill involves a synthesis of all previous levels, including knowledge, application, and analysis. Individuals at this level can critically assess different viewpoints and make informed, justified decisions in uncertain situations. Mastering evaluation is essential for high-level problem-solving and professional judgment, enabling individuals to select the most effective and ethical courses of action in their work.

157. (C) Statement I is true but Statement II is false.
Lifelong education is a vital concept for the modern world, as it enables individuals to keep pace with rapid technological and social changes. It promotes the idea that learning should continue through all stages of life, from childhood through old age. Its scope is broad, encompassing formal degrees, non-formal training, and informal life experiences. The suggestion that it is limited only to vocational training for young adults is incorrect, as it seeks to foster continuous personal and professional growth for everyone in society.

158. (A) Identify the performance gaps that can be addressed through training.
A training needs analysis is a systematic diagnostic process used to identify where employees require further skill development. By comparing the competencies needed for organizational goals with the current abilities of the workforce, managers can pinpoint specific performance gaps. This ensures that training programs are targeted and relevant, rather than general or unnecessary. TNA is a critical first step in human resource development, ensuring that educational investments lead to tangible improvements in employee performance and overall organizational productivity.

159. (B) Planning and decision-making being done by higher authorities or external agencies.
A top-down approach to development is characterized by centralized decision-making, where plans are formulated by government officials or external experts and then passed down to the grassroots level. This model often focuses on administrative efficiency and technical expertise but can neglect local knowledge and needs. Because the community has little say in the process, top-down programs often suffer from low participation and limited long-term sustainability. It contrasts sharply with participatory models that prioritize local ownership and empowerment in the development process.

160. (C) Venn/Chapati Diagramming
Venn or chapati diagramming is a participatory tool used to analyze the community's relationship with various institutions. By representing organizations with circles of different sizes and placing them at varying distances from the center, participants visually express the importance and accessibility of these services. This qualitative exercise reveals which institutions are trusted and which are marginalized or ineffective from the residents' perspective. The resulting diagram is a valuable foundation for discussing institutional reforms and for planning more inclusive and responsive community development services.

161. (C) Skill development programme
Programs that provide job-oriented vocational courses are designed to enhance the technical competencies and employability of the participants. By teaching specific skills required by the modern economy, these initiatives help individuals secure stable jobs and improve their livelihoods. Skill development is a key strategy for addressing unemployment and fostering economic growth, particularly among the youth. Such programs bridge the gap between educational qualifications and industry needs, creating a more capable and productive workforce that can adapt to changing labor market demands.

162. (A) To provide an overview of study purpose, methods, and results
The abstract of a scientific report serves as a concise summary that allows readers to quickly grasp the core elements of the research. It includes a brief statement of the study's purpose, a description of the methodology used, a summary of the key findings, and the main conclusions. This brief overview is essential for identifying relevant studies in academic databases and for understanding the significance of the work without needing to immediately review the entire detailed report or analysis.

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and the heart. By understanding that valuing belongs to the affective area, extension workers can more effectively plan for objectives that target deep-seated changes in the participants' beliefs and commitments toward sustainable practices.

177. (B) P-4, Q-3, R-2, S-1
Educational concepts are defined by their structure and delivery methods. Formal education is a sequential, institutionalized system, while non-formal education offers flexible, learner-centered opportunities outside that system. Adult education specifically targets older learners, often focusing on functional skills or literacy, and lifelong education views learning as a continuous process from birth to death. Correctly identifying these features helps in designing programs that are appropriate for the target audience and for the specific goals of the educational intervention.

178. (C) Creating an artificial environment that approximates the real job conditions for practice.
Simulation is a training method that provides a safe and controlled environment for participants to practice complex or high-risk tasks. By creating scenarios that mimic real job conditions, learners can gain experience and build skills without the consequences of making mistakes on the actual job. This approach is highly effective for developing technical proficiency and decision-making abilities. Simulation bridges the gap between theoretical knowledge and practical application, ensuring that workers are better prepared for the challenges they will face in their professional roles.

179. (B) Strong connection and trust at the grassroots level.
A primary strength of Non-Governmental Organisations is their ability to build close and trusting relationships with local communities. Because they often work at the grassroots level for extended periods, NGOs develop a deep understanding of local needs and social dynamics. This trust allows them to effectively facilitate community participation and reach marginalized groups that government programs may miss. Their grassroots connection makes NGOs vital partners in development, ensuring that interventions are culturally appropriate and have a high degree of local ownership and sustainability.

180. (D) It means that development is done 'for' people, not 'with' them.
People's participation is a fundamental principle that emphasizes that development should be a collaborative process done 'with' the community, not just 'for' them. It involves active engagement in all stages, from planning to evaluation, which fosters a sense of ownership and accountability. While it can be more time-consuming than top-down decision-making, it ensures that interventions are aligned with local needs and are more sustainable. Suggesting that participation means doing development 'for' people is incorrect, as it overlooks the empowering and collaborative nature of the process.

181. (B) Protecting land rights and preserving cultural heritage.
Development programs for tribal populations in India are specially designed to address their unique socio-economic and cultural needs. These initiatives often focus on securing land rights, protecting traditional livelihoods, and preserving the rich cultural heritage of tribal communities. This approach recognizes the deep connection between tribal identity and their ancestral lands. By providing tailored support that respects their way of life, these programs aim to ensure that tribal development is inclusive and sustainable, protecting them from displacement and cultural erosion in a changing world.

182. (A) Scatter plot
To show the relationship between two continuous variables, such as rainfall and crop yield, a scatter plot is the most appropriate visual tool. It allows researchers to plot pairs of data points to see if any correlation exists between the two factors. This visual representation reveals patterns, such as whether higher rainfall generally leads to better yields, that might be hidden in numerical tables. Effective data visualization like this is essential for communicating the significance of research findings clearly and for supporting logical conclusions in scientific reports.

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183. (C) Collaboration and partnership among stakeholders are essential for success.
The principle of cooperation in extension emphasizes that community development is a collective effort that requires the active participation of multiple actors. By fostering

hands-on competence needed to improve their own agricultural or technical outcomes.

197. (B) Learning that is integrated with the daily life and work of the participants.
A key approach in non-formal education is to ensure that learning is deeply integrated with the participants' actual life and work context. This practical focus makes the educational content immediately relevant and valuable, which significantly increases motivation and the likelihood of knowledge adoption. Unlike formal education, which can be abstract, non-formal programs address the functional needs of the learners in their own community settings. This learner-centered strategy ensures that education acts as a direct tool for problem-solving and for the improvement of individual and collective livelihoods.

198. (B) for a specific job; for overall career growth
In human resource management, training and development serve distinct but complementary roles. Training is typically focused on providing the specific skills and knowledge needed to perform a particular job effectively in the short term. Development, however, is a broader and more long-term process aimed at enhancing an individual's overall capabilities for future roles and career growth. While training fixes immediate performance gaps, development prepares employees for the future challenges and leadership responsibilities within an organization, fostering continuous personal and professional advancement.

199. (B) Promote decentralized planning and democratic participation in development.
Panchayati Raj Institutions were established in India to empower rural communities through decentralized planning and democratic participation. By bringing decision-making to the grassroots level, PRIs ensure that local people have a direct say in the development activities that affect their lives. This system fosters transparency and accountability, making administration more responsive to the specific needs of each village. PRIs serve as a critical constitutional framework for building local self-reliance and for ensuring that the benefits of social and economic progress are shared more equitably.

200. (B) Social Mapping
Social mapping is a fundamental participatory tool where community members draw a visual representation of their village, highlighting key landmarks, households, and social infrastructure. This interactive exercise allows the community to analyze their own environment and reveals perceived social divisions and resource availability that outside researchers might miss. It provides a valuable qualitative baseline for planning local development activities. By involving the entire community in the mapping process, it fosters a shared understanding of local issues and encourages a more inclusive and collective approach to problem-solving.

201. (A) Health, nutrition, and pre-school education for children under 6 and their mothers.
The Integrated Child Development Services is a comprehensive welfare scheme aimed at the holistic development of young children and their mothers. It provides essential services like supplementary nutrition, immunization, health check-ups, and pre-school education through a nationwide network of Anganwadi centers. This multi-sectoral approach targets the critical early years of life to reduce child mortality and combat malnutrition. By ensuring a healthy start for children, the program contributes significantly to the long-term human capital and overall well-being of the nation's most vulnerable populations.

202. (C) To explain the significance and implications of research findings
Interpretation represents a critical stage in the research process where raw results are analyzed to reveal their deeper meaning and significance. It involves explaining what the findings imply in the context of the original research question and relating them to existing scientific knowledge. Without interpretation, data remains just a collection of numbers or facts; interpretation transforms them into useful knowledge that can inform decision-making. This analytical step is essential for drawing valid conclusions and for suggesting practical applications or further areas for scientific investigation.

203. (B) Principle of leadership
The principle of leadership in extension emphasizes the importance of identifying and utilizing local leaders to facilitate community

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190. (C) Statement I is true but Statement II is false.
People's participation in development is a key strategy for ensuring that the benefits of progress are distributed more equitably among all community members. When diverse groups are involved in decision-making, their unique needs are more likely to be addressed. However, a top-down approach, which centralizes decision-making in the hands of external authorities, is contrary to the spirit of participation and often excludes marginalized voices. True participation requires a bottom-up approach that empowers local people to be active partners in their own developmental activities.

191. (B) Infrastructure
Programs that provide essential services like piped drinking water are primary examples of infrastructure development. By building the physical systems needed for basic necessities, these initiatives improve public health and the quality of life for rural households. Reliable access to clean water is a fundamental requirement for social and economic progress and reduces the burden of water collection, particularly for women and children. Such infrastructure projects represent a significant investment in the nation's physical capital, creating durable assets that support healthy and resilient communities.

192. (C) Abstract
The abstract of a scientific report is a concise, one-paragraph summary that provides an overview of the entire study, including its purpose, methods, key findings, and main conclusions. It allows readers to quickly determine the relevance of the research without having to read the full document immediately. A well-written abstract is essential for clear scientific communication and helps in the efficient dissemination of knowledge. It serves as a vital tool for researchers to stay informed about advancements in their field while managing a large volume of literature.

193. (A) The Gurgaon Project by F.L. Brayne
The Gurgaon Project, initiated by F.L. Brayne in the 1920s, was a significant pre-independence rural reconstruction experiment that influenced the development of extension education in India. It focused on improving various aspects of rural life, including agriculture, sanitation, and female education, through a coordinated community approach. This project highlighted the importance of a comprehensive and integrated strategy for rural development. Brayne's work laid early foundations for organized extension efforts, demonstrating that significant socio-economic improvements could be achieved through systematic education and community involvement.

194. (A) Planning and design
Logical framework analysis is a powerful management tool used primarily during the planning and design stage of a program. It provides a structured way to define objectives, identify the activities needed to achieve them, and establish clear indicators for monitoring and evaluation. By mapping out the logical connections between inputs, outputs, and outcomes, LFA ensures that the program is well-organized and has a high chance of success. It is a standard tool used by many international development agencies to improve project clarity and accountability.

195. (A) (a), (b) and (d) only
Audio-visual materials are valuable tools that enhance extension by making abstract ideas concrete and increasing the speed of learning. They can effectively stimulate interest and motivate learners by appealing to multiple senses simultaneously. However, they should never be seen as a substitute for the extension worker; instead, they serve as aids to support well-planned teaching. Effective aids are designed to be clear and simple, rather than complex or confusing. When used correctly, they significantly improve the overall engagement and retention of the target audience.

196. (B) The acquisition of physical and motor skills
The psychomotor domain in Bloom's taxonomy focuses on the development of physical skills, coordination, and the ability to perform tasks requiring manual dexterity. In extension education, this domain is critical for teaching technical procedures such as soil testing, machinery operation, or crop grafting. Mastery of these skills indicates that the learner can physically implement the recommended practices safely and effectively. This practical dimension of learning complements cognitive knowledge, ensuring that participants have the

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partnerships between farmers, extension agencies, government bodies, and NGOs, programs can leverage diverse resources and expertise. This collaborative approach reduces duplication of effort and ensures that developmental goals are achieved more effectively. Cooperation builds stronger social networks and a sense of shared responsibility, which are fundamental for creating sustainable improvements and for fostering resilient communities that can manage their own progress.

184. (A) Timing and purpose
The distinction between monitoring and evaluation is primarily based on when they occur and what they aim to achieve. Monitoring is a continuous process conducted during the implementation of a program to ensure activities are on track. Evaluation, however, is a periodic or terminal assessment that judges the overall impact and success of the program against its goals. While monitoring focuses on operational efficiency and immediate outputs, evaluation looks at long-term outcomes and the program's overall value. Both are essential for effective management.

185. (B) Projected visual aid
A filmstrip is classified as a projected visual aid because it requires a special projector to display a sequence of still images onto a screen. This type of aid is effective for presenting a narrative or a step-by-step process to a group of learners. By magnifying the images, it ensures that all participants can clearly see the details being discussed by the extension agent. While becoming less common in the digital age, projected aids remain a valuable tool for focusing audience attention and for clarifying complex visual information.

186. (B) (a) and (b)
Curriculum development for extension is a systematic and learner-centered process that begins with a thorough analysis of the needs and problems of the target audience. This initial step ensures that the resulting program is relevant and valuable to the participants. Far from being a rigid or terminal document, the curriculum must also include evaluation procedures to measure its effectiveness and should be subject to periodic review. This evidence-based and flexible approach is fundamental for maintaining the quality and impact of non-formal educational interventions.

187. (C) Self-directed and problem-centered.
Andragogical theory highlights that adult learners are typically self-directed and prefer to take responsibility for their own education. They are motivated by the immediate need to solve professional or personal problems, making their learning problem-centered rather than subject-centered. Adults bring significant life experience to the classroom, which they use as a resource for further growth. Understanding these characteristics allows extension workers to design more effective and respect-based programs that cater to the autonomy and practical goals of adult learners in diverse community settings.

188. (A) Both A and R are true and R is the correct explanation of A.
Capacity building is a strategic necessity for achieving sustainable human resource development. By strengthening the competencies of individuals and the organizational frameworks of institutions, it ensures that they can manage their own growth effectively over the long term. This process builds the resilience needed to adapt to future challenges and reduces dependency on external support. Successful capacity building empowers people to take charge of their own developmental pathways, fostering a self-reliant and skilled workforce that can drive continuous and meaningful progress.

189. (C) NGOs are often external agencies that may work to support or facilitate the formation of local CBOs.
Non-Governmental Organisations often play a supportive and catalytic role in community development by helping to establish local Community Based Organisations. While NGOs may be external entities with a broad reach, CBOs are rooted in and managed by members of a specific community. This relationship allows NGOs to share expertise and resources while ensuring that local people take ownership of their own development. By facilitating the formation of CBOs, NGOs help build the sustainable grassroots infrastructure needed for long-term community empowerment and self-reliance.

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development. Local leaders often possess high trust and deep knowledge of their community, making them effective bridge-builders between extension agents and the residents. By involving them in program planning and implementation, extension workers can increase the program's legitimacy and sustainability. This approach fosters local ownership and ensures that leadership skills are developed within the community itself, leading to long-term self-reliance and more effective social and economic progress.

204. (D) Evaluation
Evaluation is defined as the systematic collection and analysis of information to make a final judgment about a program's value or worth against its stated objectives. It provides the essential evidence needed to determine if the resources invested led to the desired impact and meaningful improvements. Through evaluation, stakeholders can identify successes and failures, which informs better decision-making for future program development. This process ensures accountability and fosters a culture of learning within development organizations, leading to more efficient and effective interventions in the long run.

205. (D) Guarantees behavioral change
Audio-visual aids are valuable tools that can increase learner retention, create interest, and save time by simplifying complex information. However, they can never guarantee behavioral change on their own, as adoption depends on various personal, social, and economic factors. While these aids enhance the educational experience, the final decision to change practices rests with the individual. Successful extension relies on a combination of effective communication methods, supportive environments, and tangible proof of benefit, rather than just the use of sophisticated visual or auditory materials during training.

206. (B) Non-formal and adult education
The decision to use materials relevant to the learners' daily lives, such as stories about farming or health, reflects a core principle of adult and non-formal education. Adult learners are highly motivated by content that has immediate practical application to their personal and professional challenges. By integrating literacy with familiar livelihood topics, educational programs become more engaging and meaningful. This respect-based approach recognizes the learner's existing knowledge and ensures that education serves as a direct tool for improving their own lives and community well-being.

207. (B) Method demonstration
Lifelong education requires flexible delivery systems and the formal recognition of learning acquired through non-formal and informal means. This approach ensures that individuals can continuously update their skills throughout their lives to adapt to a changing world. A major challenge is overcoming the rigid boundaries between different types of education and creating a more inclusive and seamless learning ecosystem. By providing diverse pathways for growth, lifelong education promotes personal empowerment and social justice, ensuring that everyone has the opportunity to realize their full potential across their entire lifespan.

208. (B) (a), (b), and (c)
Off-the-job training methods like role-playing, case studies, and lectures are designed to take place away from the actual work environment. This allows participants to focus entirely on learning without the pressures or distractions of daily job responsibilities. These methods are effective for developing theoretical knowledge, social skills, and analytical abilities in a controlled, supportive setting. By providing a safe space for practice and discussion, off-the-job training helps employees gain new perspectives and skills that they can later apply to improve their performance in the real-world workplace.

209. (C) Address the collective needs and issues of their own community.
The primary role of Community Based Organisations is to empower local residents to work together to address their own shared challenges and priorities. As membership-driven entities, CBOs are rooted in the community and have a deep understanding of local social and economic dynamics. They provide a platform for collective action on issues like health, education, and livelihood security. By leveraging local resources and knowledge, CBOs foster self-reliance and community ownership, ensuring

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non-profit entities dedicated to social or environmental causes. The suggestion that NGOs focus on profit maximization is incorrect, as their fundamental purpose is social welfare and community improvement, not financial gain for shareholders.

170. (C) The temporal patterns of things like rainfall, income, diseases, and workload throughout the year.
A seasonal calendar is a participatory tool used to understand how various factors in a community change throughout the year. By mapping patterns of rainfall, agricultural activities, disease outbreaks, and income fluctuations, residents and extension workers can identify times of peak stress or opportunity. This visual analysis helps in planning interventions that are timely and responsive to the community's annual cycle. It provides a holistic view of local life, ensuring that development strategies are aligned with the temporal realities of the participants.

171. (A) Programme for women's development
Programs that target adolescent girls with a focus on health, nutrition, and life skills are essential components of women's development. By addressing the specific needs of this group during a critical life stage, these initiatives help break the cycle of poverty and improve future maternal health. These programs empower girls with the knowledge and confidence to make informed choices about their lives. Investing in adolescent girls is a strategic developmental priority that leads to more equitable social outcomes and long-term improvements in community well-being.

172. (C) A is true but R is false.
In scientific report writing, the clear and unambiguous presentation of data is a fundamental requirement for credibility and professional communication. The goal is to provide readers with an accurate and easy-to-understand summary of the findings so they can evaluate the research objectively. Suggesting that the purpose of data presentation is to confuse the reader or obscure findings is factually incorrect and contrary to all scientific principles. Objectivity and clarity are essential for the advancement of knowledge and the practical application of research.

173. (D) All of the above
Extension education is a holistic process designed to bring about comprehensive behavioral changes in individuals and communities. It targets changes in knowledge to increase understanding, changes in skills to improve practical abilities, and changes in attitudes to foster a positive outlook toward progress. Ultimately, these factors combine to bring about a change in action, leading to the actual adoption of better practices. By addressing all these behavioral dimensions, extension ensures that development is deep-seated, self-motivated, and sustainable for the long term.

174. (C) Monitoring
Finding that training sessions are not occurring as planned is a direct result of the monitoring function in program management. Monitoring provides a continuous feedback loop that allows managers to track progress against targets during the implementation phase. By identifying this gap early, the manager can investigate the cause—such as the lack of trainers—and take corrective action to get the program back on track. This ongoing oversight is essential for maintaining efficiency and for ensuring that the program's objectives are eventually met.

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175. (A) The total production cost of the aid.
Pre-testing is a qualitative evaluation process used to ensure that an audio-visual aid is effective, clear, and culturally appropriate for the target audience. It identifies potential misunderstandings or offensive content before full-scale use, ensuring the message is delivered accurately. While understanding production costs is important for budgeting, it is not a goal of pre-testing with the audience. Instead, pre-testing focuses on the educational and communicative quality of the aid, ensuring it truly supports the intended learning objectives in the field.

176. (B) Valuing
Bloom's cognitive taxonomy focuses on intellectual skills and includes levels such as comprehension, analysis, and synthesis. Valuing, however, is a level within the affective domain, which deals with emotional and attitudinal development. Correctly distinguishing between these domains is essential for designing comprehensive educational programs that address both the mind

owns their business and earns income from its profits, which involves taking on higher levels of risk and innovation. Recognizing this distinction is important for designing entrepreneurship and employment programs that cater to the different motivations and needs of individuals seeking to improve their economic status.

217. (B) An institution or organization (like a PRI, NGO, or CBO) that helps a community achieve its development goals.
Support structures in community development are the institutional frameworks that provide resources, guidance, and legitimacy to local developmental efforts. These include constitutional bodies like Panchayati Raj Institutions, voluntary organizations like NGOs, and local groups like CBOs. By providing essential services and facilitating community participation, these organizations act as catalysts for social and economic progress. A strong network of support structures is essential for fostering a resilient and capable community that can manage its own developmental pathways sustainably and effectively over the long term.

218. (B) Action
The 'A' in PLA stands for Action, emphasizing that the primary goal of this participatory methodology is to move beyond inquiry toward practical community improvement. Participatory Learning and Action is designed to empower local people to not only analyze their own conditions but also to plan and implement specific activities to address their problems. This focus on outcomes ensures that the research process leads to tangible developmental changes. By linking learning directly with action, PLA fosters a strong sense of ownership and ensures that developmental activities are sustainable.

219. (B) Women's development and social security
Programs that provide targeted financial and social support to vulnerable groups, such as widows and destitute women, are essential components of women's development and national social security. These initiatives aim to alleviate poverty, ensure dignity, and provide a basic safety net for those who are most marginalized. By addressing the specific socio-economic challenges faced by these women, the program promotes social equity and helps prevent further exploitation. Social security schemes represent a critical commitment to inclusive development, ensuring that no member of society is left behind.

220. (B) Summarize existing research and identify specific study gaps
A literature review is a critical component of a research report that summarizes the current state of knowledge on a specific topic. Its purpose is to show how the current study is grounded in previous work and to identify specific gaps in the research that the new investigation aims to fill. By analyzing the work of other scholars, the researcher demonstrates the relevance and significance of their own study. This comprehensive review ensures that the research contributes meaningfully to the ongoing scientific dialogue within the field.

221. (C) To create a dependency culture.
The fundamental objectives of extension education include helping people to help themselves, raising rural standards of living, and developing local leadership for sustainable progress. It is an empowering process that fosters self-reliance and critical thinking rather than dependency on external aid. Creating a dependency culture would be entirely contrary to the philosophy of extension, which seeks to equip individuals with the skills and confidence needed to manage their own development. By promoting autonomy and continuous learning, extension builds the foundation for long-term social and economic independence.

222. (D) All of the above
Extension program development is a continuous and cyclical process involving several interrelated stages. It starts with situation analysis and planning, followed by the actual implementation of activities, and concludes with a systematic evaluation of the outcomes. These stages are not isolated events but form a loop where the results of one phase inform the next cycle. This iterative approach ensures that extension services remain dynamic and responsive to the evolving needs of the community, leading to more efficient management and more sustainable developmental impact over time.

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236. (B) A role-playing exercise where trainees practice negotiating a sale.
Role-playing is the most effective training method for developing social and interpersonal skills like negotiation. By practicing in a simulated scenario, participants can explore different strategies, observe the reactions of others, and receive immediate feedback in a safe environment. This interactive approach builds professional confidence and allows learners to apply theoretical principles to complex human interactions. Unlike lectures or videos, role-playing ensures that trainees actively engage with the material and gain the practical experience needed to handle real-world sales situations more effectively and strategically.

237. (C) Democratic
A democratic leadership style is characterized by the active encouragement of group participation in decision-making and planning. This approach fosters a sense of ownership and shared responsibility among team members, which often leads to higher motivation and more innovative solutions. By valuing the input of every individual, democratic leaders build trust and create a more inclusive and collaborative environment. This style is particularly effective in community development and extension, as it ensures that actions are aligned with the true needs and collective will of the people.

238. (C) Statement I is true but Statement II is false.
The Participatory Learning and Action approach is built on the premise that local people are creative experts who are fully capable of analyzing their own life conditions. PLA values local knowledge as highly relevant and scientific in its own context, using it as the foundation for developmental planning. The role of the facilitator is to enable this analysis, not to replace it with external theories. By empowering community members to undertaker their own investigations, PLA ensures that development is truly grounded in local realities and is sustainable.

239. (B) Functional household tap water connections
The Jal Jeevan Mission is a significant central government initiative in India that aims to provide a functional household tap connection to every rural home. By ensuring access to safe and adequate drinking water, the scheme improves public health and reduces the burden of water collection, which primarily falls on women and children. This investment in physical infrastructure is a fundamental requirement for social and economic development. The mission seeks to improve the overall quality of life and national dignity by addressing a core human need across the country.

240. (A) Replicate the study
The methodology section of a scientific report must be written with enough detail and clarity to allow another researcher to replicate the entire study. This transparency is a fundamental requirement of the scientific method, as it enables others to verify the findings and test the validity of the research design. By documenting every step of the investigation, the author ensures that their work is grounded in a rigorous and systematic approach. This openness fosters trust and allows for the continuous advancement of knowledge through cumulative scientific effort.

241. (D) Principle of fixed curriculum
Extension education is based on principles of flexibility and learner-centeredness, prioritizing felt needs, cultural sensitivity, and active participation. A fixed or rigid curriculum is contrary to these goals, as extension must adapt to the changing needs and local conditions of the participants to remain relevant. Successful extension programs are dynamic and are subject to continuous revision based on new technology and community feedback. By avoiding a one-size-fits-all approach, extension effectively empowers individuals to solve their own problems and achieve sustainable social and economic improvements.

242. (B) Planning and Situation Analysis
Identifying the correct target group is a critical part of the planning and situation analysis phase of program management. This process involves understanding the socio-economic characteristics and specific needs of the population to ensure that the intervention is appropriately designed. By clearly defining who the program is intended to help, extension workers can allocate resources more efficiently and develop strategies that are more likely to achieve the desired impact. This foundational step ensures that the program is

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attendance. By addressing transportation challenges, these initiatives encourage higher enrollment and reduce dropout rates among girls. This investment in female education is a fundamental priority for achieving social equity and for promoting national development. Educated women are more likely to lead healthier lives and contribute to the economic well-being of their families and communities. Such programs represent a critical commitment to the universalization of quality education.

230. (B) More direct, clear, and takes responsibility.
In scientific report writing, using the active voice is often preferred because it makes the text more engaging and direct. It clearly identifies who performed the research actions, which adds a level of transparency and accountability to the report. While the passive voice has traditionally been used to sound more objective, it can often lead to convoluted and ambiguous sentences. Choosing the active voice improves the overall clarity and readability of the findings, ensuring that the research is communicated effectively and professionally to the intended audience.

231. (B) All people are respected, and their participation in decision-making is encouraged.
The democratic philosophy of extension education is based on the fundamental belief that all individuals should be treated with respect and have a say in their own development. This approach fosters an environment where participation is voluntary and decision-making is inclusive. By encouraging diverse voices, extension workers can ensure that programs are more relevant and have a higher degree of community support. A democratic process empowers people, builds social capital, and creates the foundation for sustainable and self-reliant social and economic progress within the target community.

232. (B) During the planning phase
A monitoring and evaluation plan must be developed during the initial planning stage to ensure that the program's progress can be tracked systematically from the start. This plan defines the specific indicators and methods that will be used to measure success and identify problems during implementation. Integrating M&E early ensures that resources are allocated for these critical functions and that the program remains accountable to its goals. This proactive management approach is essential for identifying successes and failures and for learning how to improve future development initiatives.

233. (B) Non-projected visual aid
A flash card is categorized as a non-projected visual aid because it consists of a physical card with text or images that can be viewed directly without specialized equipment. These aids are highly versatile and portable, making them ideal for small group sessions in rural or field settings where electricity may be unavailable. Flash cards are effective for presenting information in a logical sequence and for reinforcing key points through repetition. They provide a simple but impactful way to enhance learning and retention within diverse community groups.

234. (A) To determine the extent to which the learning objectives have been achieved.
In the context of curriculum planning, evaluation serves as the critical tool for measuring the success of the educational process. It determines whether the participants have actually gained the knowledge or skills defined in the learning objectives. This assessment provides essential feedback to both the teacher and the learner, highlighting areas of success and identifying where further support is needed. By systematically judging the curriculum's effectiveness, planners can make informed improvements to ensure that future educational efforts are more relevant, impactful, and efficient.

235. (B) (b), (c) and (e) only
Non-formal education is defined by its voluntary and learner-centered approach, occurring primarily in community settings rather than formal institutions. It utilizes a flexible, problem-focused curriculum that addresses the immediate practical needs of the participants. This educational strategy is not hierarchical but aims to empower learners through relevant and accessible knowledge. By targeting diverse groups and adapting to local conditions, non-formal education effectively reaches populations missed by the traditional school system, fostering self-reliance and lifelong learning for social and economic improvement in various contexts.

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prospective entrepreneurs have both the mental outlook and the technical knowledge required to launch and sustain successful ventures.

281. (A) Collective action by community members to solve shared problems.
The core foundation of community development is the process of local people working together to identify and solve their shared problems through collective action. This principle emphasizes that sustainable change is most effective when it comes from within the community itself rather than being imposed from outside. It fosters a sense of ownership, cooperation, and social cohesion among all community members.

282. (B) a formal, decentralized governance system for local empowerment.
Panchayati Raj Institutions are formal structures of local self-government in India that enable decentralized planning and administration. They are designed to empower rural communities by giving them the authority and resources to manage their own development activities. As a critical support structure, these institutions facilitate democratic participation and ensure that local voices are heard in the governance and development process.

283. (B) To motivate residents and facilitate collective decision-making.
Leadership within a community is essential for articulating a shared vision and motivating residents to participate in development activities. Effective leaders act as facilitators who encourage collective decision-making and help resolve conflicts. They play a vital role in mobilizing resources and ensuring that the community remains focused on its goals, thereby strengthening the overall structure and impact of community organization.

284. (A) NGOs often act as external facilitators, while CBOs are grassroots organizations of community members.
Non-governmental organizations typically function as external facilitators or advocates that provide technical expertise and resources to communities. In contrast, community-based organizations are grassroots entities formed and led by the community members themselves to address specific local needs. While both contribute to development, CBOs represent direct local initiative, whereas NGOs often act as catalysts for change and support.

285. (C) self-help and local initiative.
A non-directive approach to community development prioritizes the autonomy of local people and emphasizes their ability to help themselves. Instead of following a plan created by external experts, the community takes the lead in identifying issues and implementing solutions. This method relies on local initiative and participation, with external agents serving only as supportive facilitators rather than as primary decision-makers.

286. (D) A top-down, expert-driven model.
The move toward participatory development represents a fundamental change from traditional models that were primarily top-down and controlled by external experts. In those older systems, local residents were often treated as passive recipients of aid rather than active partners. The new paradigm recognizes that sustainable progress requires the active involvement and decision-making power of the people affected by the development.

287. (C) Enabling local people to conduct their own analysis and planning.
Participatory Learning and Action focuses on empowering local individuals to take charge of their own development process. It provides a set of methods that allow community members to conduct their own analysis, identify their own priorities, and create their own action plans. This approach values local knowledge and ensures that the resulting development strategies are grounded in the community's perspective.

288. (B) encourage the involvement of non-literate community members.
Using visual and group-based techniques in Participatory Learning and Action ensures that the development process is inclusive of all community members. These methods do not rely on reading or writing, making it possible for individuals who are non-literate to contribute their knowledge and participate in decision-making. This inclusivity leads to a more representative and equitable analysis of community issues and solutions.

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relevant and responsive to the community's actual challenges.

243. (C) Communicating a single, simple idea or message at a glance.
A poster is an effective visual aid designed to communicate a single, clear message quickly and impactfully. It uses bold images and minimal text to grab the audience's attention and deliver key information at a glance. Posters are ideal for creating general awareness about public health issues, upcoming events, or simple agricultural practices in busy community settings. While not suitable for complex or detailed instructions, they serve as excellent reminders and awareness tools that can reach a large number of people without needing direct supervision or technology.

244. (C) Psychomotor domain
Achieving a new skill and performing it without assistance represents a significant accomplishment within the psychomotor domain of learning. This domain focuses on the development of motor skills, coordination, and physical competence. In extension, this could include a farmer correctly using a new piece of equipment or a student performing a technical procedure. Mastery in this domain indicates that the learner has gained the manual dexterity and confidence needed to implement practical changes effectively. This physical competence is a vital component of successful and sustainable developmental interventions in any technical field.

245. (D) Formal, non-formal, and informal learning throughout the lifespan
The scope of lifelong education is comprehensive, encompassing every form of learning that an individual experiences from birth until death. It includes formal degrees from institutions, non-formal training through workshops, and informal learning from daily life experiences. This approach emphasizes that personal and professional growth is a continuous process needed to adapt to a changing world. By promoting a culture where learning is valued at every stage, lifelong education empowers individuals to stay resilient, active, and capable throughout their entire lives, regardless of their background or current role.

246. (B) To foster the creation of new enterprises and self-employment.
The ultimate goal of entrepreneurship development programs is to empower individuals to become independent job creators rather than job seekers. By providing the necessary technical skills, business knowledge, and psychological readiness, these initiatives encourage the creation of new enterprises and self-employment opportunities. This focus on enterprise fosters innovation and contributes significantly to local and national economic growth. Entrepreneurship development helps reduce unemployment and builds a more resilient and self-reliant economy by transforming individuals into productive business owners who can manage their own developmental pathways sustainably.

247. (A) Both A and R are true and R is the correct explanation of A.
Community organization is a vital process that leads to increased self-reliance by helping communities identify and address their own common challenges. Through collective action and collaboration, community members develop the skills and confidence needed to mobilize local resources and advocate for their own needs. This empowerment reduces dependency on external aid and ensures that development is sustainable and truly reflective of local priorities. Community organization builds social capital and fosters a resilient environment where people work together to achieve lasting social and economic improvements for all.

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248. (C) It complicates the project and guarantees its failure.
Active stakeholder involvement is a strategic necessity for the success and sustainability of development projects. By engaging with beneficiaries, staff, and local authorities, project managers ensure that the intervention meets real needs and has broad support. This participation builds local capacity and a sense of ownership, which are essential for maintaining the project's impact over the long term. Far from complicating the project, stakeholder input provides the qualitative data and legitimacy needed to avoid failures and to achieve more equitable and effective developmental outcomes for the entire community.

249. (A) Women's development and self-employment
Programs that provide financial support for women to start their own business ventures, such as a tailoring unit, are primary examples of initiatives for women's development and self-employment. These schemes aim to empower women by providing them with the means to earn an independent income and improve their socio-economic status. This focus on entrepreneurship fosters self-reliance and contributes to the overall well-being of the family and community. By supporting women's economic participation, such programs promote gender equity and drive sustainable economic growth through the creation of local enterprises.

250. (A) Explaining find significance and theoretical implications
The discussion section serves as the interpretive heart of a scientific report, moving beyond the simple presentation of findings. It requires the researcher to contextualize the results within the framework of existing academic knowledge and theoretical perspectives. By explaining the broader implications and potential limitations of the work, this section provides a meaningful conclusion that addresses the original research questions and guides future scholarly inquiry. This analytical approach transforms factual data into significant knowledge that contributes to the advancement of the professional field and its practices.

251. (B) Fostering self-reliance by enabling people to solve their own problems.
Extension education functions on the foundational belief of helping individuals achieve independence and solve their own challenges. This philosophical approach prioritizes self-reliance over creating dependency on external systems. By providing tools for self-improvement, the process empowers community members to lead their own development, effectively bringing the knowledge of the university directly to the people in the field.

252. (A) a unidirectional information transfer to a participatory educational process.
Historically, extension models operated as top-down systems where information flowed in one direction from research centers to the users. Modern approaches have evolved into participatory processes that value the input and involvement of the community. This shift recognizes that effective learning occurs through engagement and collaboration rather than the simple transfer of technology from a centralized authority.

253. (C) Initiating activities based on the community's felt needs and interests.
Successful development initiatives must be grounded in the actual requirements and desires identified by the local population. Starting with these felt needs ensures that programmes remain relevant and receive community support. This principle emphasizes respecting local knowledge and cultural values while encouraging grassroots participation to ensure that educational efforts align closely with the daily realities of the target audience.

254. (D) It creates a communication link for problems to reach researchers and solutions to reach the community.
The concept of a two-way channel describes a reciprocal relationship between research institutions and the community. Local problems are communicated upward to researchers for analysis, while scientific solutions are relayed back down to the community for practical application. This continuous cycle ensures that research remains grounded in real-world issues and that communities benefit from evidence-based improvements and innovations.

255. (C) To bring about desirable changes in knowledge, skills, and attitudes.
Extension education seeks to facilitate meaningful transformations in the way individuals act and think within their local environments. This process targets improvements in technical proficiency, understanding of concepts, and psychological perspectives. By influencing these three key areas, the educational process aims to improve livelihoods and overall quality of life through the adoption of more effective and sustainable human practices.

256. (B) To identify the gap between the current situation and a desired state.
Need assessment serves as the starting point of the management cycle by identifying the discrepancy between the current status and the desired future

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state. This diagnostic step determines exactly what is required to improve a specific situation. By pinpointing this gap, managers can design targeted interventions that address the most pressing issues identified by the community and the situation analysis.

257. (D) By providing a contextual understanding of the community's environment.
Situation analysis provides the essential background information required to understand the environment where a programme will be implemented. It examines various socio-economic, cultural, and environmental factors that might influence outcomes. This comprehensive overview ensures that the identified needs are understood within their proper context, allowing for the creation of more realistic, culturally appropriate, and effective development strategies and objectives.

258. (A) The continuous tracking of activities to ensure they align with the plan.
Monitoring acts as a continuous oversight mechanism during the implementation of a programme. It involves tracking daily activities to ensure they remain consistent with the original blueprint and timelines. This ongoing observation allows managers to identify deviations early and make necessary real-time adjustments. Effective monitoring ensures that resources are used correctly and that the programme stays on its intended path.

259. (C) The insights gained from evaluation inform the planning of future programmes.
Describing programme management as a cyclical process indicates that each phase is interconnected and feeds into the next. The outcomes and lessons learned from the final evaluation stage are used to improve the planning and need assessment for future initiatives. This loop ensures continuous improvement and sustainability, as the management system constantly adapts based on past performance and changing needs.

260. (A) Monitoring is a continuous process-tracking activity, while evaluation measures final outcomes.
Monitoring and evaluation serve distinct purposes within the management cycle. Monitoring is an ongoing, internal activity focused on tracking the progress of activities as they occur. In contrast, evaluation is typically conducted at specific milestones or at the end of a programme to measure its overall impact and success against initial goals. Together, they provide accountability and facilitate learning.

261. (D) They are resource-intensive in terms of time.
Interpersonal methods involve direct, one-on-one communication between an extension worker and an individual, which is highly effective for building trust. However, these techniques are inherently resource-intensive because they require a significant amount of time to reach each person individually. This limitation makes it difficult to scale such personalized approaches quickly across large populations compared to mass communication or group methods.

262. (B) facilitate peer learning and active engagement.
Small group methods create an environment where a limited number of participants can interact closely with one another and the facilitator. This setting is ideal for fostering active engagement and facilitating peer-to-peer learning through discussions and demonstrations. Such interaction allows participants to share experiences and learn from each other's perspectives, making the educational process more collaborative and socially reinforcing.

263. (C) To ensure the materials are culturally suitable and comprehensible to the audience.
Field-testing involves presenting instructional materials to a sample of the target audience before they are finalized for widespread use. This step is crucial for verifying that the content is culturally appropriate and easily understood by the participants. It helps identify potential misunderstandings or offensive imagery, allowing for necessary revisions to ensure the communication is clear, respectful, and effective.

264. (D) To help overcome challenges posed by audience illiteracy.
Audio-visual aids are vital tools in extension education because they provide concrete representations of abstract concepts. They are particularly effective in settings where literacy levels may be low, as visual images and sounds can convey information without relying solely on

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223. (C) They typically allow for little to no direct feedback from the audience.
While mass media methods like radio and television are excellent for achieving wide outreach and creating general awareness, their primary limitation is the lack of two-way communication. Unlike interpersonal or small group methods, mass media typically involves a one-way flow of information with very little opportunity for immediate audience feedback or the clarification of doubts. This makes it less effective for teaching complex skills or for addressing the specific, individual needs of the learners. Effective extension strategies often combine mass media with interactive methods to overcome this limitation.

224. (C) Synthesis
An objective that requires a student to create a unique plan for a community garden belongs to the synthesis level of Bloom's cognitive taxonomy. This high-order skill involves integrating disparate elements and knowledge to form a new and coherent original work. It requires creative thinking and the ability to apply learned principles in a novel and practical way. Achieving this level indicates that the learner can move beyond simple understanding or analysis to produce something unique and valuable, which is a key goal in fostering innovation and problem-solving.

225. (B) Validation and certification of learning acquired through non-formal and informal means.
A major issue in lifelong education is the need for official systems that recognize and validate the knowledge and skills individuals gain outside of traditional schools. This ensures that non-formal training and life experience are properly valued by employers and society. Establishing such certification pathways is essential for promoting educational equity and for encouraging continuous learning across the lifespan. By recognizing all forms of learning, lifelong education becomes a more powerful tool for personal empowerment and professional advancement in a dynamic and changing global economy.

226. (A) Developing the capabilities of employees to meet organizational goals.
Human Resource Development is a strategic management process aimed at enhancing the skills, knowledge, and abilities of employees within an organization. Its primary goal is to empower the workforce to perform their roles more effectively and to contribute to the overall success of the institution. Unlike recruitment or basic maintenance, HRD focuses on continuous professional growth through training, mentoring, and development opportunities. By investing in its people, an organization builds the resilient and capable human capital needed to adapt to future challenges and to achieve long-term sustainability.

227. (B) P-4, Q-2, R-1, S-3
Development strategies can be categorized by their approach to community involvement and the distribution of power. A top-down approach centralizes decision-making, while a participatory approach involves people as active partners. Welfare approaches often focus on relief and can create dependency, whereas empowerment approaches seek to enhance people's capacity to make their own life choices. Correctly matching these approaches is essential for designing developmental programs that are aligned with the goals of social justice, sustainability, and long-term community self-reliance. This understanding guides more effective and ethical practice.

228. (C) Controlled experiment
Participatory Learning and Action utilizes interactive and visual tools such as social mapping, seasonal calendaring, and transect walks to facilitate community-led analysis. These methods are designed to be non-extractive and to value local knowledge. A controlled experiment, however, is a formal scientific research method used to test specific hypotheses by manipulating variables in a laboratory or controlled field setting. It does not align with the participatory, qualitative, and community-driven philosophy of PLA. Using the correct tools is essential for ensuring that research is empowering and reflects local realities.

229. (C) Education
Programs that provide incentives like free bicycles to girl students are strategically designed to overcome the barriers to secondary school

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273. (D) The difficulty in maintaining learner motivation.
A major hurdle in executing non-formal education initiatives is keeping participants engaged and motivated over time. Since these programmes are often voluntary and involve adults with multiple life responsibilities, maintaining consistent attendance and interest can be difficult. Overcoming this challenge requires facilitators to ensure that the content remains highly relevant, practical, and immediately applicable to the learners' daily lives.

274. (A) tailored to the specific context and participants.
The instructional strategies and resources used in non-formal education are specifically customized to match the unique characteristics of the learners and their environment. This customization ensures that the learning process is culturally appropriate and linguistically accessible. By tailoring materials to the specific context, educators can make the information more relatable and increase the likelihood of successful knowledge transfer and skill development.

275. (C) Non-formal education operates outside the formal school system, while formal education operates within it.
The primary difference between these two educational models lies in their institutional setting and structure. Formal education takes place within a established, hierarchical school system characterized by standardized grades and degrees. Non-formal education, while organized and intentional, operates outside of these traditional boundaries to provide learning experiences that are more flexible and directly integrated into the participants' actual living conditions.

276. (A) To enhance performance by improving specific knowledge, skills, and attitudes.
Training is a structured process aimed at improving an individual's efficiency in a specific role by enhancing their knowledge, skills, and attitudes. It is designed to bridge performance gaps and prepare people for specific tasks. By focusing on these three critical dimensions, training initiatives help individuals master new techniques and adopt more productive perspectives, ultimately leading to better organizational or community outcomes.

277. (D) fostering individuals who can create jobs and drive economic growth.
While general skill development focuses on preparing individuals for specific jobs, entrepreneurship development aims to cultivate individuals who can start their own businesses. This specialized training encourages the creation of new economic opportunities rather than just filling existing vacancies. It fosters a mindset of innovation and independence, empowering people to become job creators who contribute directly to broader economic growth.

278. (B) Capacity building addresses the overall ability of an organization or community.
Capacity building is a broader concept than individual training as it focuses on the collective ability of an entire organization or community to achieve its goals. While training improves the skills of a single person, capacity building strengthens institutional structures, resource management, and cooperative processes. This holistic approach ensures that the community as a whole becomes more resilient and capable of sustaining progress.

279. (C) Attending a workshop with case studies and simulations.
Off-the-job training occurs away from the immediate work environment, allowing participants to focus entirely on learning without the distractions of daily tasks. Examples include attending specialized workshops, participating in simulations, or analyzing case studies in a classroom setting. These methods provide a safe space for experimentation and theoretical learning before participants apply their new skills and knowledge in their actual roles.

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280. (D) cultivating traits like innovation and practical skills like business planning.
A comprehensive entrepreneurship development initiative combines the cultivation of essential personality traits with practical business management expertise. It focuses on fostering innovation, risk-taking, and creative problem-solving while providing necessary instruction in areas such as financial planning, marketing, and operations. This balanced approach ensures that

written text. These aids help maintain attention, increase retention of information, and make the learning experience more engaging for diverse audiences.

265. (A) The number of people reached.
Extension methods are categorized based on the scope of the audience they are intended to serve. This classification distinguishes between interpersonal interactions for individuals, small group settings for collective learning, and large group or mass methods for broad information dissemination. Understanding these categories helps extension workers select the most appropriate approach based on their specific educational goals and available resources.

266. (B) To provide a framework for categorizing and structuring educational objectives.
Bloom's taxonomy serves as a critical framework for educators to organize and categorize educational objectives in a logical hierarchy. By using this system, extension professionals can ensure that their curriculum addresses different levels of complexity in learning. This structure helps in planning educational activities that move beyond simple memory tasks to encourage more advanced cognitive processing and practical application of knowledge.

267. (B) The Affective domain.
The affective domain in educational theory focuses on the emotional aspects of learning, including attitudes, values, feelings, and motivations. In extension education, targeting this domain is essential for changing how people feel about new technologies or practices. Success in this area is often necessary before individuals will commit to changing their actual behaviors or adopting innovative solutions in their communities.

268. (A) Knowledge (recall of facts).
Within the cognitive domain, the most fundamental level of learning is the acquisition and recall of specific facts and information. This foundational stage involves memorizing terms, dates, or procedures without necessarily understanding their underlying principles or how to apply them. It provides the necessary building blocks upon which higher-order skills, such as comprehension, analysis, and evaluation, are subsequently developed and mastered.

269. (C) progress from simple recall to higher-order thinking skills.
Utilizing Bloom's taxonomy ensures that educational programmes are designed to move participants from basic information recall to more complex cognitive tasks. This hierarchical approach encourages learners to analyze information, solve problems, and make informed judgments. By structuring activities this way, extension educators can foster deeper understanding and more meaningful learning that allows individuals to adapt their knowledge to new situations.

270. (D) Evaluation.
When an activity requires individuals to make critical judgments about the quality or effectiveness of different methods based on specific criteria, it operates at the evaluation level. This is the highest stage in the cognitive hierarchy, involving the synthesis of knowledge to form a reasoned opinion. It requires learners to assess information and determine the value of a solution or idea.

271. (C) flexibility and learner-centric approach.
Non-formal education is distinguished by its adaptable nature and its focus on the specific needs of the learner. Unlike the rigid structures found in traditional schools, these programmes are designed to be relevant to the immediate environment and life circumstances of the participants. This flexibility allows the educational process to respond quickly to community changes and individual learning preferences.

272. (B) serve the learning needs of those not adequately reached by schools.
Historically, non-formal and adult education systems were developed to bridge the gaps left by the formal school system. They were created to serve individuals who had never entered school or those who had dropped out early. These alternative learning paths ensure that all members of society, regardless of their age or previous educational background, have access to meaningful learning opportunities.

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289. (D) Transect walks.
A transect walk is a systematic journey through a specific area conducted by community members and facilitators. This technique is used to observe and discuss the various land use patterns, ecological zones, and infrastructure within a community. It provides a visual and physical way to gather data about the local environment while facilitating discussion about the challenges and opportunities present.

290. (A) It leads to more relevant and equitable outcomes by incorporating diverse interests.
From a stakeholder perspective, the primary benefit of active participation is the creation of development outcomes that are more relevant and equitable. By incorporating the diverse interests and specialized knowledge of various community members, the process ensures that the benefits of development are distributed more fairly. This inclusive approach reduces conflict and increases the long-term sustainability and local acceptance of programmes.

291. (C) Promoting both wage employment and self-employment opportunities.
The Indian government utilizes a two-pronged approach to improve economic conditions by promoting both wage employment and self-employment. Wage employment provides immediate financial stability through guaranteed work days, while self-employment initiatives encourage entrepreneurship through training and financial support. This comprehensive strategy addresses both the need for a basic safety net and the long-term goal of fostering independent economic growth.

292. (A) enhance their social, economic, and political empowerment.
Development initiatives targeted at women are specifically designed to foster their overall empowerment across social, economic, and political spheres. These programmes aim to improve women's status in society, enhance their financial independence, and increase their participation in decision-making processes. By addressing these multiple dimensions of empowerment, the government seeks to ensure that women can contribute fully to and benefit from development.

293. (D) The sanitation and infrastructure sector.
Proper sanitation and physical infrastructure are recognized as essential foundations for improving public health and supporting overall societal development. These sectors provide the necessary environmental conditions to prevent the spread of diseases and facilitate the delivery of other essential services like education and healthcare. Investing in these foundational areas creates a stable platform for sustainable progress in all other sectors.

294. (B) To provide a safety net by guaranteeing work, especially in rural areas.
Wage employment programmes are primarily intended to serve as a financial safety net for vulnerable populations, particularly those living in rural areas. By guaranteeing a specific number of days of paid work, these initiatives help alleviate poverty and provide a reliable source of income during lean agricultural periods. This support is crucial for maintaining household stability and preventing distress migration to urban centers.

295. (C) address a wide range of areas like health, education, and employment.
Describing development programmes as multi-sectoral means that they address a broad variety of interconnected fields simultaneously. Instead of focusing on just one area, such as health or education, these initiatives work across multiple sectors like nutrition, employment, and infrastructure. This holistic approach recognizes that progress in one area often depends on and reinforces improvements in other sectors of human development.

296. (D) To ensure clarity, replicability, and credibility of the research.
A standardized structure for scientific reports is essential for maintaining high quality in research communication. This consistency ensures that the information is presented clearly, allowing other researchers to replicate the study if necessary. Furthermore, following an established format enhances the credibility of the findings by providing a transparent and logical flow that the academic and professional community can easily follow.

297. (A) The interpretation and discussion section.

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The interpretation and discussion section is where researchers explain the significance of their findings and place them within the context of existing knowledge. In this part of the report, the author compares their results with theories and previous studies to show how the new data fits into the wider field. It is the phase where raw data is transformed into meaningful conclusions.

298. (B) The presentation of data in the results section.
Tables and graphs are critical tools used in the results section of a scientific report to summarize and present data visually. They help to make complex numerical information more accessible and allow readers to quickly identify patterns, trends, and relationships within the findings. The effective use of these visual aids ensures that the data is communicated accurately and clearly to the audience.

299. (B) Contextualizing findings and explaining their meaning.
During the interpretation and discussion phase, the researcher moves beyond the simple reporting of numbers to explain what the results actually mean for the study. This involves contextualizing the data by relating it to the initial research problem and broader theoretical frameworks. This intellectual process is vital for drawing valid conclusions and identifying the practical implications of the research for policy or future work.

300. (A) The discussion and conclusion.
Acknowledging a study's limitations is a standard and important part of the discussion and conclusion section. This practice involves identifying factors that may have influenced the results or limited the generalizability of the findings. By being transparent about these constraints, researchers provide a more honest and credible account of their work, which helps others understand the scope and reliability of the research.

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